

## Verhalen, Frances

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**From:** Verhalen, Frances  
**Sent:** Friday, August 25, 2017 8:48 AM  
**To:** Sather, Mark; Miller, Michael; Crawford, Dorothy; Madden, Joshua; Belk, Ellen; Curran, Trisha; Allen, Kara; Parker, Cindy  
**Cc:** Donaldson, Guy; Stanton, Marya; Shar, Alan; Robinson, Jeffrey  
**Subject:** TCEQ Notification: Hurricane Harvey

TCEQ called this morning to let me know that they are in the process of taking their air monitoring equipment from Corpus Christi up to Houston off-line and moving it into storage to ride out the Hurricane. It is likely that it will be off-line for more than 120 hours, so data loss is expected. They will begin re-establishing networks when it is safe to do so.

Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

## Verhalen, Frances

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**From:** Verhalen, Frances  
**Sent:** Monday, August 28, 2017 7:39 AM  
**To:** Donaldson, Guy  
**Subject:** RE: TCEQ Notification: Hurricane Harvey

Includes Houston. Julie indicated that more may go off line depending on the storm (Beaumont area).

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**From:** Donaldson, Guy  
**Sent:** Sunday, August 27, 2017 9:36 PM  
**To:** Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>  
**Subject:** RE: TCEQ Notification: Hurricane Harvey

Houston?

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**From:** Verhalen, Frances  
**Sent:** Friday, August 25, 2017 8:48 AM  
**To:** Sather, Mark <[sather.mark@epa.gov](mailto:sather.mark@epa.gov)>; Miller, Michael <[Miller.Michael@epa.gov](mailto:Miller.Michael@epa.gov)>; Crawford, Dorothy <[Crawford.Dorothy@epa.gov](mailto:Crawford.Dorothy@epa.gov)>; Madden, Joshua <[madden.joshua@epa.gov](mailto:madden.joshua@epa.gov)>; Belk, Ellen <[Belk.Ellen@epa.gov](mailto:Belk.Ellen@epa.gov)>; Curran, Trisha <[Curran.Trisha@epa.gov](mailto:Curran.Trisha@epa.gov)>; Allen, Kara <[Allen.Kara@epa.gov](mailto:Allen.Kara@epa.gov)>; Parker, Cindy <[parker.cindy@epa.gov](mailto:parker.cindy@epa.gov)>  
**Cc:** Donaldson, Guy <[Donaldson.Guy@epa.gov](mailto:Donaldson.Guy@epa.gov)>; Stanton, Marya <[Stanton.Marya@epa.gov](mailto:Stanton.Marya@epa.gov)>; Shar, Alan <[shar.alan@epa.gov](mailto:shar.alan@epa.gov)>; Robinson, Jeffrey <[Robinson.Jeffrey@epa.gov](mailto:Robinson.Jeffrey@epa.gov)>  
**Subject:** TCEQ Notification: Hurricane Harvey

TCEQ called this morning to let me know that they are in the process of taking their air monitoring equipment from Corpus Christi up to Houston off-line and moving it into storage to ride out the Hurricane. It is likely that it will be off-line for more than 120 hours, so data loss is expected. They will begin re-establishing networks when it is safe to do so.

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## Verhalen, Frances

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**From:** Verhalen, Frances  
**Sent:** Monday, August 28, 2017 12:11 PM  
**To:** Julie Eldredge  
**Subject:** Monitoring Station outages

Julie,  
Know you are busy with Harvey. When you get a chance, can you let me know if you are planning on taking monitoring stations offline in the Beaumont area also?

Thanks.

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## Verhalen, Frances

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**From:** Verhalen, Frances  
**Sent:** Monday, August 28, 2017 12:20 PM  
**To:** Weinstock, Lewis  
**Subject:** RE: Hurricane/TS Harvey - Flooding in Houston

Thank you. Lew. I will keep you updated as we get information, and we are not in need of anything yet.

So far, I have not heard how the networks are faring along the coast. TCEQ chose to take as many instruments offline and moved to a higher level in the stations that were expected to be hardest hit. I am checking on those monitors near Beaumont, as the storm front is moving that way.

Also, the NPAP trailer was in East Texas for an audit so is not in Houston at this time.

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**From:** Weinstock, Lewis  
**Sent:** Monday, August 28, 2017 12:16 PM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Cc:** Rice, Joann <Rice.Joann@epa.gov>; Noah, Greg <Noah.Greg@epa.gov>; Brown, Ethan <Brown.Ethan@epa.gov>  
**Subject:** RE: Hurricane/TS Harvey - Flooding in Houston

Hi Fran:

Chet wanted me to pass along our thoughts and wishes that everybody in your area is safe. Please let us know if we can provide technical assistance or advice in the aftermath of this terrible storm. Generally speaking we don't have access to any spare equipment but we can work together with the folks at Region 8 to coordinate any future requests for help.

Lewis Weinstock | Group Leader | Ambient Air Monitoring Group | Air Quality Assessment Division - Mail Code C304-06 | Office of Air Quality Planning & Standards | U.S. Environmental Protection Agency | Research Triangle Park, NC 27711 | Phone: 919-541-3661

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**From:** Noah, Greg  
**Sent:** Monday, August 28, 2017 1:06 PM  
**To:** Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>  
**Cc:** Rice, Joann <[Rice.Joann@epa.gov](mailto:Rice.Joann@epa.gov)>; Weinstock, Lewis <[Weinstock.Lewis@epa.gov](mailto:Weinstock.Lewis@epa.gov)>  
**Subject:** RE: Hurricane/TS Harvey - Flooding in Houston

Hi Fran,

Understood, and thanks for reaching out to us. We were just talking at lunch about the impact the storm would have on the networks in Eastern TX. Joann Rice is our main ozone contact and I'm going to pass your message to her.

Does Oklahoma have a backup standard(s) that they could get certified in a different place? The Region 7 lab is in Kansas City and they have an SRP as well. Just an "off the top of my head" thought.

We're thinking of the lab folks down in Houston. I spoke to Clarence via text earlier today and he and his family were doing ok. Hopefully everyone has a safe place to ride out the rest of the week.

Greg

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**From:** Verhalen, Frances  
**Sent:** Monday, August 28, 2017 12:06 PM  
**To:** Noah, Greg <[Noah.Greg@epa.gov](mailto:Noah.Greg@epa.gov)>  
**Subject:** Hurricane/TS Harvey - Flooding in Houston

Greg, Just an FYI.

Due to the flooding in Houston, ODEQ will be unable to retrieve their ozone standards from the lab on Thursday, as scheduled. We are awaiting news for the status of the lab and when staff may safely go to work. ODEQ can operate for a while, but I may need help in ensuring that they have sufficient back up for their ozone standard.

Do you have loaner equipment that can be used?

Thanks in advance, Fran

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## Verhalen, Frances

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**From:** Verhalen, Frances  
**Sent:** Monday, August 28, 2017 1:44 PM  
**To:** Julie Eldredge  
**Subject:** RE: Monitoring Station outages

Thank you. Stay dry and safe. Hope your staff along the coast are okay and not too much damage sustained.

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**From:** Julie Eldredge [mailto:Julie.Eldredge@Tceq.Texas.Gov]  
**Sent:** Monday, August 28, 2017 1:26 PM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Subject:** RE: Monitoring Station outages

Hi Fran,

Yes, Beaumont monitoring stations were also taken offline. We are compiling a list that shows the sites that were shut down; I will forward it to you shortly.

Thank you,  
*Julie Eldredge*  
Section Manager  
Ambient Monitoring Section, MC-165  
Monitoring Division, Office of Compliance and Enforcement  
Texas Commission on Environmental Quality  
512-239-1714  
[julie.eldredge@tceq.texas.gov](mailto:julie.eldredge@tceq.texas.gov)

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**From:** Verhalen, Frances [mailto:verhalen.frances@epa.gov]  
**Sent:** Monday, August 28, 2017 12:11 PM  
**To:** Julie Eldredge <[Julie.Eldredge@Tceq.Texas.Gov](mailto:Julie.Eldredge@Tceq.Texas.Gov)>  
**Subject:** Monitoring Station outages

Julie,  
Know you are busy with Harvey. When you get a chance, can you let me know if you are planning on taking monitoring stations offline in the Beaumont area also?

Thanks.

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## Verhalen, Frances

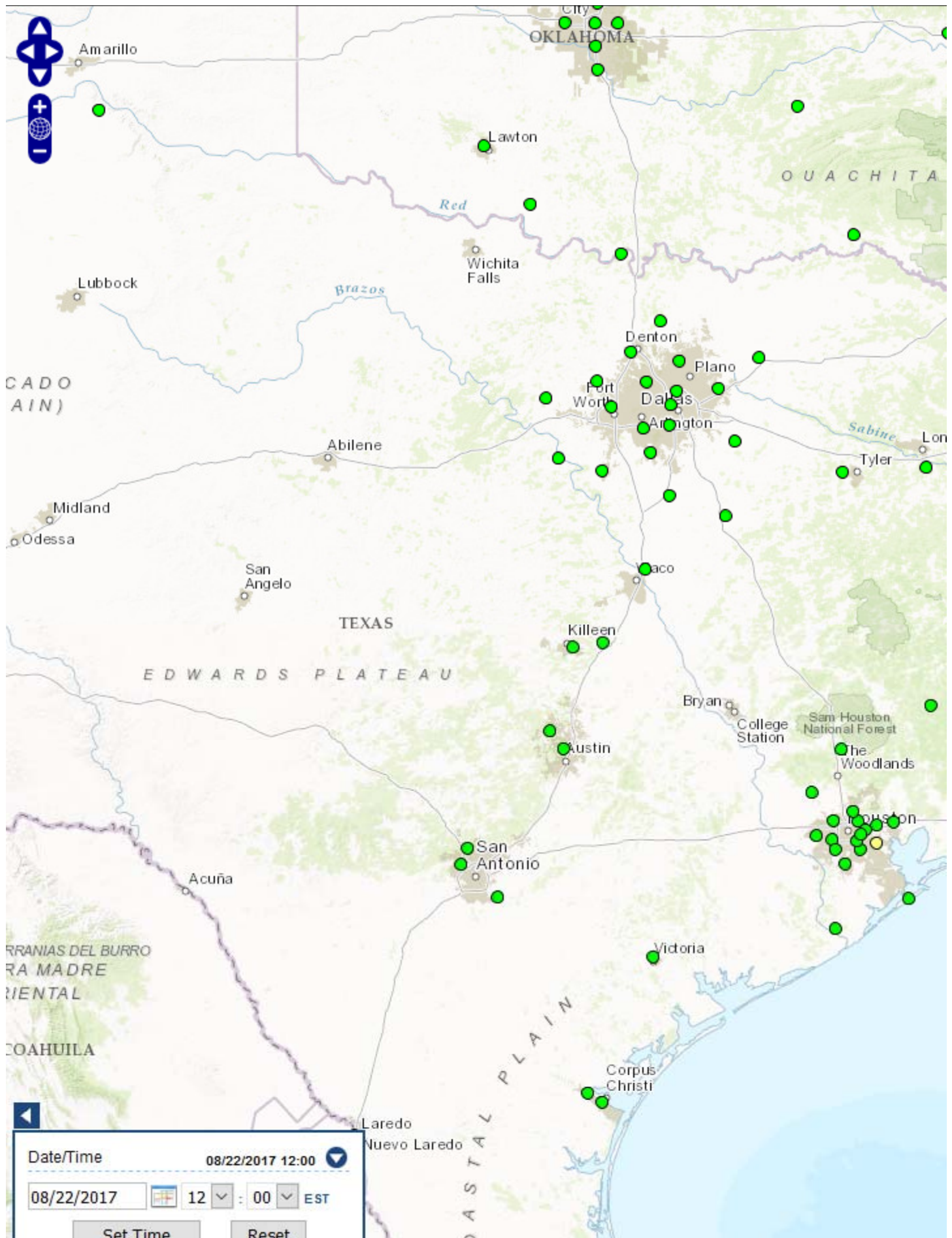
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**From:** Weinstock, Lewis  
**Sent:** Tuesday, August 29, 2017 2:11 PM  
**To:** Naess, Liz; Hemby, James  
**Cc:** OAQPS AQAD GL; Wayland, Richard; OAQPS AQAD AAMG; Verhalen, Frances; Dickerson, Phil  
**Subject:** TX ozone network - Before and Now

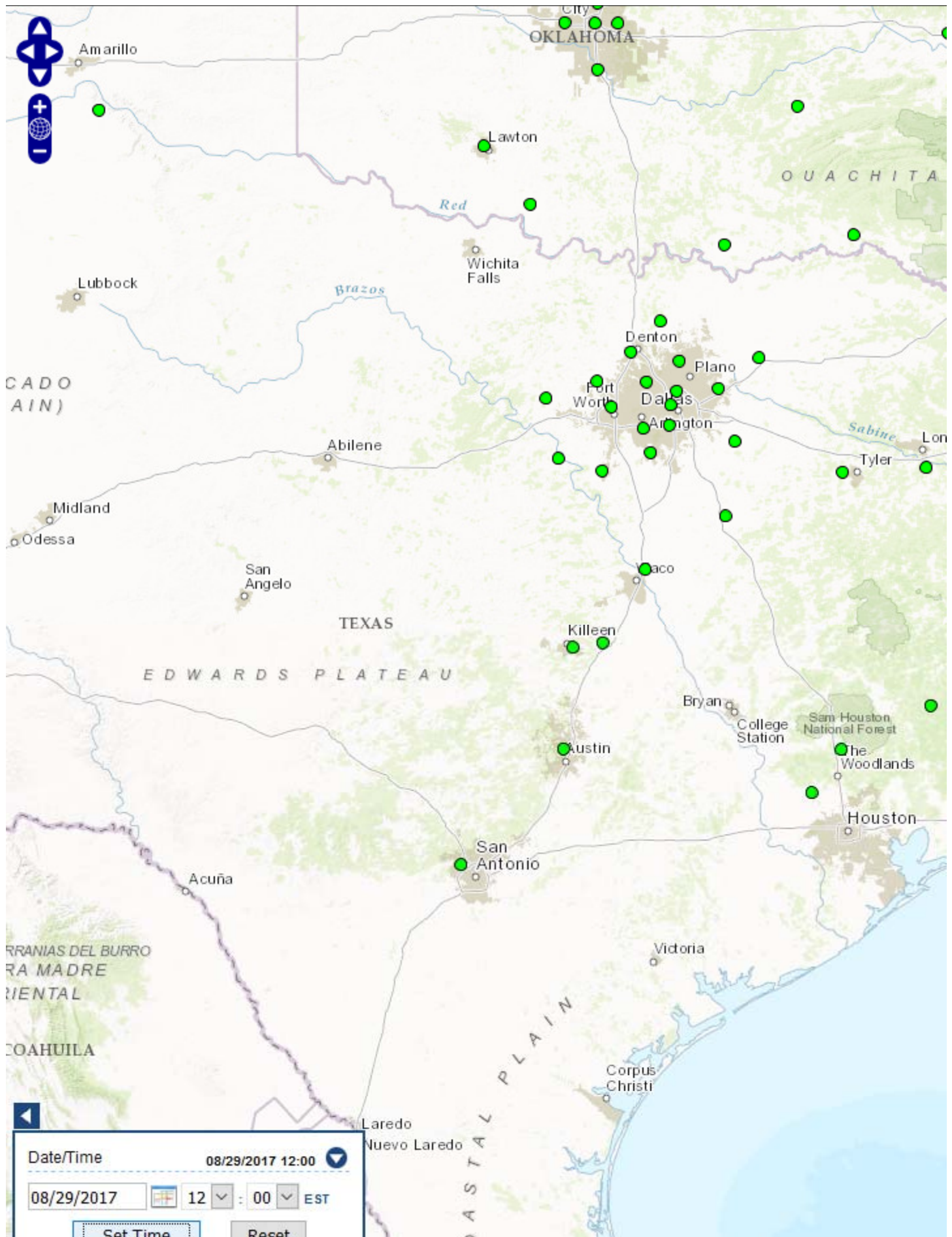
It appears that TCEQ started downing instruments on August 23.

TX ozone network on August 22:





TX ozone network today:



**From:** Naess, Liz

**Sent:** Tuesday, August 29, 2017 2:43 PM

**To:** Hemby, James <Hemby.James@epa.gov>; Weinstock, Lewis <Weinstock.Lewis@epa.gov>

**Cc:** OAQPS AQAD GL <OAQPS\_AQAD\_GL@epa.gov>; Wayland, Richard <Wayland.Richard@epa.gov>

**Subject:** RE: REQUEST FOR ASSISTANCE -- FW: Hurricane Response/Press Support

FYI, David was on a call with R6 earlier today and they said 300 monitors were down right now in TX (the word from TCEQ).

-----

Liz Naess, Ph.D.

Air Quality Analysis Group

U.S. EPA OAQPS/AQAD

Research Triangle Park, NC 27711

919.541.1892

2015 Air Trends Report:

<https://gispub.epa.gov/air/trendsreport/2017/>

## Verhalen, Frances

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**From:** Verhalen, Frances  
**Sent:** Tuesday, August 29, 2017 2:22 PM  
**To:** Weinstock, Lewis; Naess, Liz; Hemby, James  
**Cc:** OAQPS AQAD GL; Wayland, Richard; OAQPS AQAD AAMG; Dickerson, Phil  
**Subject:** RE: TX ozone network - Before and Now  
**Attachments:** Coastal Hurricane Shut Downs\_082817.xlsx

Lew,  
TCEQ did an orderly shutdown of their monitors along the coast starting last week. I have attached their list of monitors that were shut down to this email. Most of the instruments were raised off the floor/lower levels of the monitoring buildings. Some of the monitors were moved to regional offices, if possible.

I do not have a schedule of when they will start to bring them back up due to initial efforts for assessment of impacts from Hurricane Harvey. I anticipate not before next week in Brownsville/Harlingen area. In the storm-ravaged areas from Corpus Christi to Houston to Beaumont, I expect the monitors will most likely be off-line for four to eight weeks, depending on damage in and around monitor locations.

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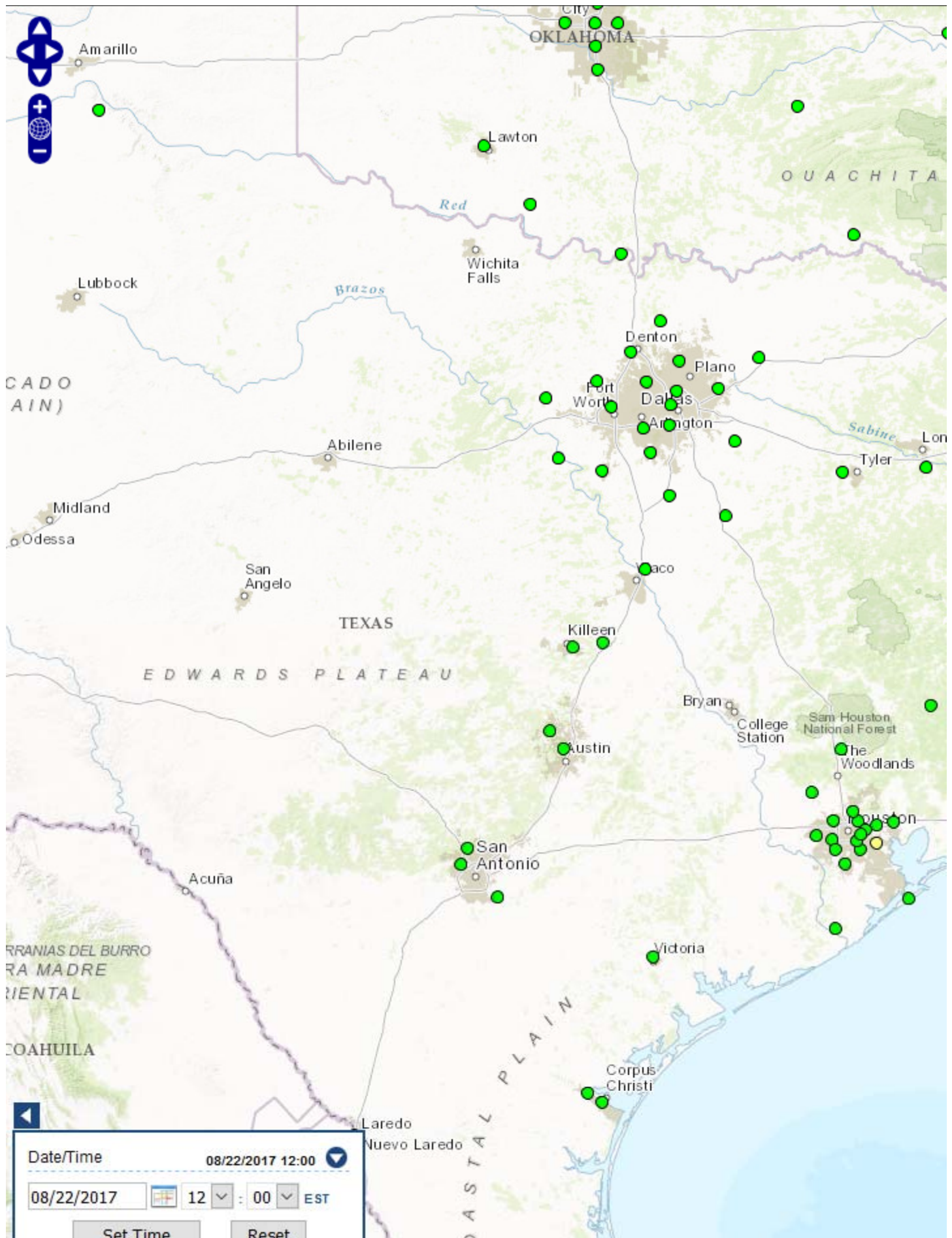
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**From:** Weinstock, Lewis  
**Sent:** Tuesday, August 29, 2017 2:11 PM  
**To:** Naess, Liz <Naess.Liz@epa.gov>; Hemby, James <Hemby.James@epa.gov>  
**Cc:** OAQPS AQAD GL <OAQPS\_AQAD\_GL@epa.gov>; Wayland, Richard <Wayland.Richard@epa.gov>; OAQPS AQAD AAMG <OAQPS\_AQAD\_AAMG@epa.gov>; Verhalen, Frances <verhalen.frances@epa.gov>; Dickerson, Phil <Dickerson.Phil@epa.gov>  
**Subject:** TX ozone network - Before and Now

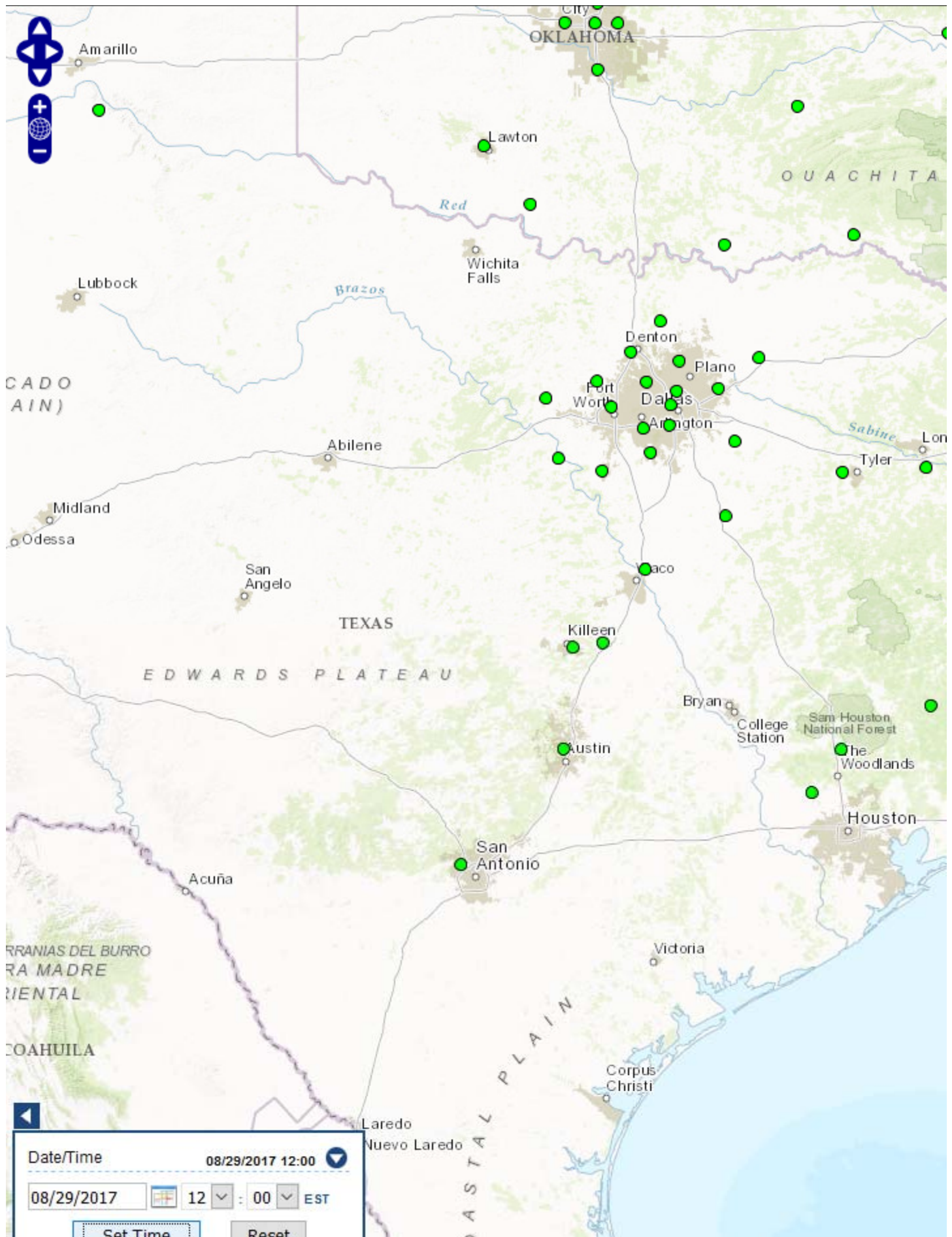
It appears that TCEQ started downing instruments on August 23.

TX ozone network on August 22:





TX ozone network today:





**From:** Naess, Liz

**Sent:** Tuesday, August 29, 2017 2:43 PM

**To:** Hemby, James <[Hemby.James@epa.gov](mailto:Hemby.James@epa.gov)>; Weinstock, Lewis <[Weinstock.Lewis@epa.gov](mailto:Weinstock.Lewis@epa.gov)>

**Cc:** OAQPS AQAD GL <[OAQPS\\_AQAD\\_GL@epa.gov](mailto:OAQPS_AQAD_GL@epa.gov)>; Wayland, Richard <[Wayland.Richard@epa.gov](mailto:Wayland.Richard@epa.gov)>

**Subject:** RE: REQUEST FOR ASSISTANCE -- FW: Hurricane Response/Press Support

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2015 Air Trends Report:

<https://gispub.epa.gov/air/trendsreport/2017/>

AQS Site ID	CAMS	Site Name	Sampler Type	Sampler Operator	AQS Network & Monitor Type
480290032	23	San Antonio Northwest	O3	TCEQ	SLAMS
480290032	23	San Antonio Northwest	NO/NO2/NOx	TCEQ	SLAMS
480290032	23	San Antonio Northwest	Wind	TCEQ	Spm
480290032	23	San Antonio Northwest	Temperature (Outdoor)	TCEQ	Spm
480290032	23	San Antonio Northwest	PM2.5 (FRM)	San Antonio Metropolitan Health District	SLAMS/Spm
480290032	23	San Antonio Northwest	PM2.5 (TEOM)	San Antonio Metropolitan Health District	Spm
480290051	140	San Antonio Seale	Wind	TCEQ	Spm
480290051	140	San Antonio Seale	Temperature (Outdoor)	TCEQ	Spm
480290052	58	Camp Bullis	O3	TCEQ	SLAMS
480290052	58	Camp Bullis	NO/NO2/NOx	TCEQ	State
480290052	58	Camp Bullis	Wind	TCEQ	Spm
480290052	58	Camp Bullis	Temperature (Outdoor)	TCEQ	Spm
480290052	58	Camp Bullis	Solar Radiation	TCEQ	Spm
480290052	58	Camp Bullis	Speciated VOC (AutoGC)	Orsat	Spm
480290052	58	Camp Bullis	TNMOC (AutoGC)	Orsat	Spm
480290053	301	Selma	PM2.5 (TEOM)	San Antonio Metropolitan Health District	Spm
480290053	301	Selma	PM10 (FRM)	San Antonio Metropolitan Health District	SLAMS
480290059	59	Calaveras Lake	TSP	San Antonio Metropolitan Health District	
480290059	59	Calaveras Lake	O3	San Antonio Metropolitan Health District	SLAMS
480290059	59	Calaveras Lake	SO2	San Antonio Metropolitan Health District	SLAMS
480290059	59	Calaveras Lake	NO/NO2/NOx	San Antonio Metropolitan Health District	SLAMS
480290059	59	Calaveras Lake	Wind	San Antonio Metropolitan Health District	Spm
480290059	59	Calaveras Lake	Temperature (Outdoor)	San Antonio Metropolitan Health District	Spm
480290059	59	Calaveras Lake	PM2.5 (FRM)	San Antonio Metropolitan Health District	SLAMS/Spm
480290059	59	Calaveras Lake	PM2.5 (TEOM)	San Antonio Metropolitan Health District	Spm
480391003	11	Clute	Speciated VOC (Canister)	TCEQ	Spm
480391003	11	Clute	Wind	TCEQ	Spm

480391003	11	Clute	Temperature (Outdoor)	TCEQ	Spm
480391004	84	Manvel Croix Park	O3	TCEQ	SLAMS
480391004	84	Manvel Croix Park	NO/NO2/NOx	TCEQ	SLAMS
480391004	84	Manvel Croix Park	Wind	TCEQ	Spm
480391004	84	Manvel Croix Park	Temperature (Outdoor)	TCEQ	Spm
480391012	1012	Freeport South Avenue I	SO2	TCEQ	Non-Regulatory
480391012	1012	Freeport South Avenue I	Wind	TCEQ	Spm
480391012	1012	Freeport South Avenue I	Temperature (Outdoor)	TCEQ	Spm
480391012	1012	Freeport South Avenue I	PM2.5 (Speciation)	TCEQ	Spm
480391012	1012	Freeport South Avenue I	PM2.5 Mass (Speciation)	TCEQ	Spm
480391016	1016	Lake Jackson	O3	TCEQ	SLAMS
480391016	1016	Lake Jackson	NO/NO2/NOx	TCEQ	SLAMS
480391016	1016	Lake Jackson	Wind	TCEQ	Spm
480391016	1016	Lake Jackson	Temperature (Outdoor)	TCEQ	Spm
480391016	1016	Lake Jackson	Solar Radiation	TCEQ	Spm
480610006	0080, 0180	Brownsville	Speciated VOC (Canister)	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	SVOC	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	CO	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	O3	University of Texas Rio Grande Valley	SLAMS
480610006	0080, 0180	Brownsville	Wind	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	Temperature (Outdoor)	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	Solar Radiation	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	PM2.5 (FRM)	University of Texas Rio Grande Valley	SLAMS
480610006	0080, 0180	Brownsville	Ambient Temperature TSP (Pb)	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	Barometric Pressure TSP (Pb)	University of Texas Rio Grande Valley	Spm
480610006	0080, 0180	Brownsville	TSP (Pb)	University of Texas Rio Grande Valley	SLAMS
480612004	0323, 0667	Isla Blanca Park	Temperature (Outdoor)	University of Texas Rio Grande Valley	Spm

480612004	0323, 0667	Isla Blanca Park	PM2.5 (TEOM)	University of Texas Rio Grande Valley	Spm
480612004	0323, 0667	Isla Blanca Park	Wind (3m)	University of Texas Rio Grande Valley	Spm
480710013	0096, 0638	Smith Point Hawkins Camp	Wind	TCEQ	Spm
480710013	0096, 0638	Smith Point Hawkins Camp	Temperature (Outdoor)	TCEQ	Spm
481670005	0147, 1022	Texas City Ball Park	Speciated VOC (Canister)	TCEQ	Spm
481670005	0147, 1022	Texas City Ball Park	SO2	TCEQ	Spm
481670005	0147, 1022	Texas City Ball Park	Wind	TCEQ	Spm
481670005	0147, 1022	Texas City Ball Park	Temperature (Outdoor)	TCEQ	Spm
481670005	0147, 1022	Texas City Ball Park	H2S	TCEQ	Spm
481671034	1034	Galveston 99th Street	O3	TCEQ	PAMS/SLAMS
481671034	1034	Galveston 99th Street	NO/NO2/NOx	TCEQ	PAMS/SLAMS
481671034	1034	Galveston 99th Street	Wind	TCEQ	PAMS/SLAMS
481671034	1034	Galveston 99th Street	Temperature (Outdoor)	TCEQ	PAMS/SLAMS
481671034	1034	Galveston 99th Street	Dew Point	TCEQ	Spm
481671034	1034	Galveston 99th Street	Relative Humidity	TCEQ	PAMS/SLAMS
481671034	1034	Galveston 99th Street	Solar Radiation	TCEQ	PAMS/SLAMS
481671034	1034	Galveston 99th Street	PM2.5 (Speciation)	TCEQ	Spm
481671034	1034	Galveston 99th Street	PM2.5 Mass (Speciation)	TCEQ	Spm
481671034	1034	Galveston 99th Street	PM2.5 (TEOM)	TCEQ	Spm
482010024	0008, 0108, 0150	Houston Aldine	O3	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	NO/NO2/NOx	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	NOy (High Sensitivity)	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	Wind	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	Temperature (Outdoor)	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	Dew Point	TCEQ	Spm
482010024	0008, 0108, 0150	Houston Aldine	Relative Humidity	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	Solar Radiation	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	Barometric Pressure	TCEQ	PAMS/SLAMS
482010024	0008, 0108, 0150	Houston Aldine	PM2.5 (Speciation)	TCEQ	Spm
482010024	0008, 0108, 0150	Houston Aldine	PM2.5 Mass (Speciation)	TCEQ	SLAMS
482010024	0008, 0108, 0150	Houston Aldine	PM2.5 (TEOM)	TCEQ	Spm
482010024	0008, 0108, 0150	Houston Aldine	PM10 (FRM)	TCEQ	SLAMS
482010026	0015, 0115	Channelview	O3	TCEQ	PAMS/SLAMS
482010026	0015, 0115	Channelview	NO/NO2/NOx	TCEQ	PAMS/SLAMS
482010026	0015, 0115	Channelview	Wind	TCEQ	PAMS/SLAMS
482010026	0015, 0115	Channelview	Temperature (Outdoor)	TCEQ	PAMS/SLAMS
482010026	0015, 0115	Channelview	Dew Point	TCEQ	Spm
482010026	0015, 0115	Channelview	Relative Humidity	TCEQ	PAMS/SLAMS
482010026	0015, 0115	Channelview	Solar Radiation	TCEQ	PAMS/SLAMS

482010026	0015, 0115	Channelview	Speciated VOC (AutoGC)	TCEQ	PAMS/SLAMS
482010026	0015, 0115	Channelview	TNMOC (AutoGC)	TCEQ	PAMS/SLAMS
482010036	1036	Jacinto Port	Speciated VOC (Canister)	TCEQ	Spm
482010036	1036	Jacinto Port	Wind	TCEQ	Spm
482010036	1036	Jacinto Port	Temperature (Outdoor)	TCEQ	Spm
482010046	405	Houston North Wayside	O3	City of Houston Health Department	SLAMS
482010046	405	Houston North Wayside	SO2	City of Houston Health Department	Spm
482010047	408	Lang	O3	City of Houston Health Department	SLAMS
482010047	408	Lang	NO/NO2/NOx	City of Houston Health Department	SLAMS
482010047	408	Lang	PM10 (FRM)	City of Houston Health Department	SLAMS
482010051	409	Houston Croquet	O3	City of Houston Health Department	SLAMS
482010051	409	Houston Croquet	SO2	City of Houston Health Department	Spm
482010051	409	Houston Croquet	Wind	City of Houston Health Department	Spm
482010051	409	Houston Croquet	Temperature (Outdoor)	City of Houston Health Department	Spm
482010055	0053, 0146, 0181	Houston Bayland Park	Speciated VOC (Canister)	TCEQ	Spm
482010055	0053, 0146, 0181	Houston Bayland Park	O3	TCEQ	SLAMS
482010055	0053, 0146, 0181	Houston Bayland Park	NO/NO2/NOx	TCEQ	SLAMS
482010055	0053, 0146, 0181	Houston Bayland Park	Wind	TCEQ	Spm
482010055	0053, 0146, 0181	Houston Bayland Park	Temperature (Outdoor)	TCEQ	Spm
482010055	0053, 0146, 0181	Houston Bayland Park	Solar Radiation	TCEQ	Spm
482010057	0167, 1667	Galena Park	Speciated VOC (Canister)	TCEQ	Spm
482010057	0167, 1667	Galena Park	Wind	TCEQ	Spm
482010057	0167, 1667	Galena Park	Temperature (Outdoor)	TCEQ	Spm
482010058	148	Baytown	Speciated VOC (Canister)	TCEQ	Spm
482010058	148	Baytown	Wind	TCEQ	Spm
482010058	148	Baytown	Temperature (Outdoor)	TCEQ	Spm
482010058	148	Baytown	PM2.5 (Beta)	TCEQ	SLAMS
482010060	404	Houston Kirkpatrick	Wind	City of Houston Health Department	Spm
482010060	404	Houston Kirkpatrick	Temperature (Outdoor)	City of Houston Health Department	Spm

482010061	145	Shore Acres	Speciated VOC (Canister)	TCEQ	Spm
482010061	145	Shore Acres	Wind	TCEQ	Spm
482010061	145	Shore Acres	Temperature (Outdoor)	TCEQ	Spm
482010062	406	Houston Monroe	O3	City of Houston Health Department	SLAMS
482010062	406	Houston Monroe	SO2	City of Houston Health Department	Spm
482010062	406	Houston Monroe	Precipitation	City of Houston Health Department	Spm
482010062	406	Houston Monroe	PM10 (FRM)	City of Houston Health Department	SLAMS
482010066	410	Houston Westhollow	O3	City of Houston Health Department	SLAMS
482010066	410	Houston Westhollow	Wind	City of Houston Health Department	Spm
482010066	410	Houston Westhollow	Temperature (Outdoor)	City of Houston Health Department	Spm
482010066	410	Houston Westhollow	PM10 (FRM)	City of Houston Health Department	SLAMS
482010069	169	Milby Park	Speciated VOC (AutoGC)	Orsat	Spm
482010069	169	Milby Park	TNMOC (AutoGC)	Orsat	Spm
482010069	169	Milby Park	Wind	TCEQ	Spm
482010069	169	Milby Park	Temperature (Outdoor)	TCEQ	Spm
482010307	1029	Manchester/Central	Speciated VOC (Canister)	TCEQ	Spm
482010307	1029	Manchester/Central	Wind	TCEQ	Spm
482010307	1029	Manchester/Central	Temperature (Outdoor)	TCEQ	Spm
482010307	1029	Manchester/Central	TNMOC	TCEQ	Spm
482010307	1029	Manchester/Central	Speciated VOC (Canister)	TCEQ	Spm
482010416	416	Park Place	O3	City of Houston Health Department	Spm
482010416	416	Park Place	SO2	City of Houston Health Department	Spm
482010416	416	Park Place	NO/NO2/NOx	City of Houston Health Department	Spm
482010416	416	Park Place	Wind	City of Houston Health Department	Spm
482010416	416	Park Place	Temperature (Outdoor)	City of Houston Health Department	Spm
482010416	416	Park Place	Dew Point	City of Houston Health Department	Spm

482010416	416	Park Place	Relative Humidity	City of Houston Health Department	Spm
482010416	416	Park Place	Solar Radiation	City of Houston Health Department	Spm
482010416	416	Park Place	Barometric Pressure	City of Houston Health Department	Spm
482010416	416	Park Place	Precipitation	City of Houston Health Department	Spm
482010416	416	Park Place	PM2.5 (TEOM)	City of Houston Health Department	Spm
482010416	416	Park Place	UV Radiation	City of Houston Health Department	Spm
482010803	0114, 0603	HRM #3 Haden Rd	Speciated VOC (Canister)	TCEQ	Spm
482011015	0165, 1015	Lynchburg Ferry	Speciated VOC (Canister)	TCEQ	NATTS/SLAMS
482011015	0165, 1015	Lynchburg Ferry	O3	TCEQ	SLAMS
482011015	0165, 1015	Lynchburg Ferry	NO/NO2/NOx	TCEQ	SLAMS
482011015	0165, 1015	Lynchburg Ferry	Wind	TCEQ	Spm
482011015	0165, 1015	Lynchburg Ferry	Temperature (Outdoor)	TCEQ	Spm
482011015	0165, 1015	Lynchburg Ferry	Solar Radiation	TCEQ	Spm
482011017	1017	Baytown Garth	O3	TCEQ	SLAMS
482011017	1017	Baytown Garth	SO2	TCEQ	SLAMS
482011017	1017	Baytown Garth	Wind	TCEQ	Spm
482011017	1017	Baytown Garth	Temperature (Outdoor)	TCEQ	Spm
482011017	1017	Baytown Garth	Solar Radiation	TCEQ	Spm
482011034	1	Houston East	O3	TCEQ	SLAMS
482011034	1	Houston East	NO/NO2/NOx	TCEQ	SLAMS
482011034	1	Houston East	Wind	TCEQ	Spm
482011034	1	Houston East	Temperature (Outdoor)	TCEQ	Spm
482011034	1	Houston East	PM2.5 (TEOM)	TCEQ	Spm
482011035	0055, 0113, 0304, 0403	Clinton	Carbonyl	TCEQ	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	Speciated VOC (AutoGC)	TCEQ	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	TNMOC (AutoGC)	TCEQ	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	UV Radiation	TCEQ	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	O3	City of Houston Health Department	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	SO2	City of Houston Health Department	SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	NO/NO2/NOx	City of Houston Health Department	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	Wind	City of Houston Health Department	PAMS/SLAMS

482011035	0055, 0113, 0304, 0403	Clinton	Temperature (Outdoor)	City of Houston Health Department	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	Dew Point	City of Houston Health Department	Spm
482011035	0055, 0113, 0304, 0403	Clinton	Relative Humidity	City of Houston Health Department	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	Solar Radiation	City of Houston Health Department	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	Barometric Pressure	City of Houston Health Department	PAMS/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	Precipitation	City of Houston Health Department	Spm
482011035	0055, 0113, 0304, 0403	Clinton	PM2.5 (FRM)	City of Houston Health Department	SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	PM2.5 (FRM)	City of Houston Health Department	QA Collocated/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	PM2.5 (TEOM)	City of Houston Health Department	Spm
482011035	0055, 0113, 0304, 0403	Clinton	PM10 (FRM)	City of Houston Health Department	QA Collocated/SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	PM10 (FRM)	City of Houston Health Department	SLAMS
482011035	0055, 0113, 0304, 0403	Clinton	CO (High Sensitivity)	City of Houston Health Department	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Speciated VOC (Canister)	TMSI	NATTS/PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Speciated VOC (Canister)	TMSI	NATTS/QA Collocated/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	SVOC	TMSI	NATTS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	SVOC	TMSI	QA Collocated/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Carbonyl	TMSI	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	O3	TMSI	NCORE/PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	NO/NO2/NOx	TMSI	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	NOy (High Sensitivity)	TMSI	NCORE/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Wind	TMSI	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Temperature (Outdoor)	TMSI	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Dew Point	TMSI	Spm
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Relative Humidity	TMSI	NCORE/PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Solar Radiation	TMSI	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	Speciated VOC (AutoGC)	Orsat	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	TNMOC (AutoGC)	Orsat	PAMS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM10-2.5	TMSI	NCORE/SLAMS/Spm



482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM2.5	TMSI	NCORE/SLAMS/Spm
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM2.5 (FRM)	TMSI	NCORE/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM2.5 (Speciation)	TMSI	Csn Str/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM2.5 (Speciation)	TMSI	QA Collocated/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM2.5 (TEOM)	TMSI	Spm
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM10 (Speciation)	TMSI	NATTS/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM10 Mass (Speciation)	TMSI	SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM10 (Speciation)	TMSI	QA Collocated/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	PM10 Mass (Speciation)	TMSI	QA Collocated/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	CO (High Sensitivity)	TMSI	NCORE/SLAMS
482011039	0035, 0139, 0235, 1001, 3000	Houston Deer Park #2	SO2 (High Sensitivity)	TMSI	NCORE/SLAMS
482011043	243	La Porte Airport C243	Wind	TCEQ	PAMS/SLAMS
482011043	243	La Porte Airport C243	Temperature (Outdoor)	TCEQ	PAMS/SLAMS
482011043	243	La Porte Airport C243	Precipitation	TCEQ	PAMS/SLAMS
482011043	243	La Porte Airport C243	Radar Profiler	TCEQ	PAMS
482011049	1049	Pasadena North	Speciated VOC (Canister)	TCEQ	Spm
482011049	1049	Pasadena North	Wind	TCEQ	Spm
482011049	1049	Pasadena North	Temperature (Outdoor)	TCEQ	Spm
482011049	1049	Pasadena North	TNMOC	TCEQ	Spm
482011049	1049	Pasadena North	Speciated VOC (Canister)	TCEQ	Spm
482011050	45	Seabrook Friendship Park	O3	TCEQ	SLAMS
482011050	45	Seabrook Friendship Park	SO2	TCEQ	Spm
482011050	45	Seabrook Friendship Park	NO/NO2/NOx	TCEQ	SLAMS
482011050	45	Seabrook Friendship Park	Wind	TCEQ	Spm
482011050	45	Seabrook Friendship Park	Temperature (Outdoor)	TCEQ	Spm
482011050	45	Seabrook Friendship Park	Solar Radiation	TCEQ	Spm
482011050	45	Seabrook Friendship Park	PM2.5 (TEOM)	TCEQ	Spm
482011052	1052	Houston North Loop	CO	TCEQ	Near Road/SLAMS
482011052	1052	Houston North Loop	NO/NO2/NOx	TCEQ	Near Road/SLAMS
482011052	1052	Houston North Loop	Wind	TCEQ	Spm
482011052	1052	Houston North Loop	Temperature (Outdoor)	TCEQ	Spm
482011052	1052	Houston North Loop	PM2.5 (FRM)	TCEQ	Near Road/SLAMS
482011066	1066	Houston Southwest Freeway	NO/NO2/NOx	TCEQ	Near Road/SLAMS
482011066	1066	Houston Southwest Freeway	Wind	TCEQ	Spm
482011066	1066	Houston Southwest Freeway	Temperature (Outdoor)	TCEQ	Spm
482016000	0175, 1020	Cesar Chavez	Wind	TCEQ	Spm
482016000	0175, 1020	Cesar Chavez	Temperature (Outdoor)	TCEQ	Spm
482016000	0175, 1020	Cesar Chavez	Speciated VOC (AutoGC)	TCEQ	Spm
482016000	0175, 1020	Cesar Chavez	TNMOC (AutoGC)	TCEQ	Spm
482450009	0002, 0112, 2002	Beaumont Downtown	Speciated VOC (Canister)	TCEQ	Spm
482450009	0002, 0112, 2002	Beaumont Downtown	O3	TCEQ	PAMS/SLAMS

482450009	0002, 0112, 2002	Beaumont Downtown	SO2	TCEQ	SLAMS
482450009	0002, 0112, 2002	Beaumont Downtown	NO/NO2/NOx	TCEQ	PAMS/SLAMS
482450009	0002, 0112, 2002	Beaumont Downtown	Wind	TCEQ	PAMS/SLAMS
482450009	0002, 0112, 2002	Beaumont Downtown	Temperature (Outdoor)	TCEQ	PAMS/SLAMS
482450009	0002, 0112, 2002	Beaumont Downtown	Solar Radiation	TCEQ	PAMS/SLAMS
482450009	0002, 0112, 2002	Beaumont Downtown	Speciated VOC (AutoGC)	Orsat	PAMS/SLAMS
482450009	0002, 0112, 2002	Beaumont Downtown	TNMOC (AutoGC)	Orsat	PAMS/SLAMS
482450011	0028, 0128, 0228	Port Arthur West	Speciated VOC (Canister)	TCEQ	Spm
482450011	0028, 0128, 0228	Port Arthur West	Speciated VOC (Canister)	TCEQ	QA Collocated
482450011	0028, 0128, 0228	Port Arthur West	O3	TCEQ	SLAMS
482450011	0028, 0128, 0228	Port Arthur West	SO2	TCEQ	SLAMS
482450011	0028, 0128, 0228	Port Arthur West	Wind	TCEQ	Spm
482450011	0028, 0128, 0228	Port Arthur West	Temperature (Outdoor)	TCEQ	Spm
482450011	0028, 0128, 0228	Port Arthur West	Solar Radiation	TCEQ	Spm
482450014	119	Groves	Speciated VOC (Canister)	TCEQ	Spm
482450014	119	Groves	Wind	TCEQ	Spm
482450014	119	Groves	Temperature (Outdoor)	TCEQ	Spm
482450017	136	Port Neches Avenue L	Speciated VOC (Canister)	TCEQ	Spm
482450017	136	Port Neches Avenue L	Wind	TCEQ	Spm
482450017	136	Port Neches Avenue L	Temperature (Outdoor)	TCEQ	Spm
482450018	1019, 2001	Jefferson County Airport	Speciated VOC (Canister)	TCEQ	Spm
482450018	1019, 2001	Jefferson County Airport	Wind	TCEQ	PAMS/SLAMS
482450018	1019, 2001	Jefferson County Airport	Temperature (Outdoor)	TCEQ	PAMS/SLAMS
482450018	1019, 2001	Jefferson County Airport	Precipitation	TCEQ	PAMS/SLAMS
482450018	1019, 2001	Jefferson County Airport	Radar Profiler	TCEQ	PAMS
482450019	0131, 2000	City Service Center / PA	Speciated VOC (Canister)	TCEQ	Spm
482450019	0131, 2000	City Service Center / PA	Wind	TCEQ	Spm
482450019	0131, 2000	City Service Center / PA	Temperature (Outdoor)	TCEQ	Spm
482450021	0303, 0689	Port Arthur Memorial School	PM2.5 (TEOM)	TCEQ	Spm
482450022	0064, 0654	Hamshire	O3	TCEQ	SLAMS
482450022	0064, 0654	Hamshire	NO/NO2/NOx	TCEQ	SLAMS
482450022	0064, 0654	Hamshire	Wind	TCEQ	Spm
482450022	0064, 0654	Hamshire	Temperature (Outdoor)	TCEQ	Spm
482450022	0064, 0654	Hamshire	Solar Radiation	TCEQ	Spm
482450022	0064, 0654	Hamshire	PM2.5 (Beta)	TCEQ	Spm
482451035	1035	Nederland High School	O3	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	NO/NO2/NOx	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	Wind	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	Speciated VOC (AutoGC)	Orsat	PAMS/SLAMS
482451035	1035	Nederland High School	TNMOC (AutoGC)	Orsat	PAMS/SLAMS
482451035	1035	Nederland High School	Temperature (Outdoor)	TCEQ	PAMS/SLAMS

482451035	1035	Nederland High School	Dew Point	TCEQ	Spm
482451035	1035	Nederland High School	Relative Humidity	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	Solar Radiation	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	Barometric Pressure	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	CO (High Sensitivity)	TCEQ	PAMS/SLAMS
482451035	1035	Nederland High School	UV Radiation	TCEQ	PAMS/SLAMS
482451050	1050	Beaumont Mary	Speciated VOC (Canister)	TCEQ	Spm
482451050	1050	Beaumont Mary	Temperature (Outdoor)	TCEQ	Spm
482451050	1050	Beaumont Mary	H2S	TCEQ	Spm
482451050	1050	Beaumont Mary	Wind (3m)	TCEQ	Spm
482451071	1071	Port Arthur 7th Street	SO2	TCEQ	SLAMS
482451071	1071	Port Arthur 7th Street	Wind	TCEQ	Spm
482451071	1071	Port Arthur 7th Street	Temperature (Outdoor)	TCEQ	Spm
482730314	314	National Seashore	Wind	TCEQ	Spm
482730314	314	National Seashore	Temperature (Outdoor)	TCEQ	Spm
482730314	314	National Seashore	PM2.5 (TEOM)	TCEQ	Spm
483550025	4	Corpus Christi West	O3	TCEQ	SLAMS
483550025	4	Corpus Christi West	SO2	TCEQ	SLAMS
483550025	4	Corpus Christi West	Wind	TCEQ	Spm
483550025	4	Corpus Christi West	Temperature (Outdoor)	TCEQ	Spm
483550025	4	Corpus Christi West	Solar Radiation	TCEQ	Spm
483550026	21	Corpus Christi Tuloso	O3	TCEQ	SLAMS
483550026	21	Corpus Christi Tuloso	SO2	TCEQ	SLAMS
483550026	21	Corpus Christi Tuloso	Wind	TCEQ	Spm
483550026	21	Corpus Christi Tuloso	Temperature (Outdoor)	TCEQ	Spm
483550029	0168, 0170, 0195	Corpus Christi Hillcrest	Speciated VOC (Canister)	TCEQ	Spm
483550029	0168, 0170, 0195	Corpus Christi Hillcrest	Wind	TCEQ	Spm
483550029	0168, 0170, 0195	Corpus Christi Hillcrest	Temperature (Outdoor)	TCEQ	Spm
483550032	0098, 0149, 0155	Corpus Christi Huisache	Speciated VOC (Canister)	TCEQ	Spm
483550032	0098, 0149, 0155	Corpus Christi Huisache	SO2	TCEQ	SLAMS
483550032	0098, 0149, 0155	Corpus Christi Huisache	Wind	TCEQ	Spm
483550032	0098, 0149, 0155	Corpus Christi Huisache	Temperature (Outdoor)	TCEQ	Spm
483550032	0098, 0149, 0155	Corpus Christi Huisache	H2S	TCEQ	Spm
483550032	0098, 0149, 0155	Corpus Christi Huisache	PM2.5 (FRM)	TCEQ	SLAMS
483550032	0098, 0149, 0155	Corpus Christi Huisache	PM2.5 (FRM)	TCEQ	QA Collocated/SLAMS/Spm
483550034	0199, 0635	Dona Park	Speciated VOC (Canister)	TCEQ	Spm
483550034	0199, 0635	Dona Park	Wind	TCEQ	Spm
483550034	0199, 0635	Dona Park	Temperature (Outdoor)	TCEQ	Spm
483550034	0199, 0635	Dona Park	PM2.5 (Speciation)	TCEQ	Csn Supplemental/SLAMS
483550034	0199, 0635	Dona Park	PM2.5 Mass (Speciation)	TCEQ	Csn Supplemental/SLAMS
483550034	0199, 0635	Dona Park	PM2.5 (TEOM)	TCEQ	Spm

483550034	0199, 0635	Dona Park	PM10 (FRM)	TCEQ	SLAMS
483550083	83	Corpus Christi Palm	Wind	TCEQ	Spm
483550083	83	Corpus Christi Palm	Temperature (Outdoor)	TCEQ	Spm
483550083	83	Corpus Christi Palm	Relative Humidity	TCEQ	Spm
483550083	83	Corpus Christi Palm	Speciated VOC (AutoGC)	Orsat	Spm
483550083	83	Corpus Christi Palm	TNMOC (AutoGC)	Orsat	Spm
483551024	1024	Williams Park	Wind	TCEQ	Spm
483551024	1024	Williams Park	Temperature (Outdoor)	TCEQ	Spm
483551024	1024	Williams Park	TNMOC	TCEQ	Spm
483551024	1024	Williams Park	Speciated VOC (Canister)	TCEQ	Spm
483611001	0009, 0141	West Orange	O3	TCEQ	SLAMS
483611001	0009, 0141	West Orange	NO/NO2/NOx	TCEQ	SLAMS
483611001	0009, 0141	West Orange	Wind	TCEQ	Spm
483611001	0009, 0141	West Orange	Temperature (Outdoor)	TCEQ	Spm
483611001	0009, 0141	West Orange	Solar Radiation	TCEQ	Spm
483611083	1083	Orange 1st Street	SO2	TCEQ	SLAMS
483611083	1083	Orange 1st Street	Wind	TCEQ	Spm
483611083	1083	Orange 1st Street	Temperature (Outdoor)	TCEQ	Spm
484690003	CAMS 0087	Victoria	O3, Solar Rad, met	TCEQ	SLAMS
484931038	1038	Floresville Hospital Boulevard	NO/NO2/NOx	San Antonio Metropolitan Health District	Spm
484931038	1038	Floresville Hospital Boulevard	Wind	San Antonio Metropolitan Health District	Spm
484931038	1038	Floresville Hospital Boulevard	Temperature (Outdoor)	San Antonio Metropolitan Health District	Spm
484931038	1038	Floresville Hospital Boulevard	Speciated VOC (AutoGC)	Orsat	Spm
484931038	1038	Floresville Hospital Boulevard	TNMOC (AutoGC)	Orsat	Spm

## Verhalen, Frances

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**From:** Weinstock, Lewis  
**Sent:** Tuesday, August 29, 2017 2:37 PM  
**To:** Verhalen, Frances  
**Subject:** RE: TX ozone network - Before and Now

Thanks Fran. It looks like TCEQ was as proactive as possible. I worked on an air monitoring network in Houston during the early 80's that got flooded out by a tropical storm. Wading into the water to rescue equipment (and get attacked by panicking fire ants) has always been a career highlight.

Lewis Weinstock | Group Leader | Ambient Air Monitoring Group | Air Quality Assessment Division - Mail Code C304-06 | Office of Air Quality Planning & Standards | U.S. Environmental Protection Agency | Research Triangle Park, NC 27711 | Phone: 919-541-3661|

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**From:** Verhalen, Frances  
**Sent:** Tuesday, August 29, 2017 3:22 PM  
**To:** Weinstock, Lewis <Weinstock.Lewis@epa.gov>; Naess, Liz <Naess.Liz@epa.gov>; Hemby, James <Hemby.James@epa.gov>  
**Cc:** OAQPS AQAD GL <OAQPS\_AQAD\_GL@epa.gov>; Wayland, Richard <Wayland.Richard@epa.gov>; OAQPS AQAD AAMG <OAQPS\_AQAD\_AAMG@epa.gov>; Dickerson, Phil <Dickerson.Phil@epa.gov>  
**Subject:** RE: TX ozone network - Before and Now

Lew,  
TCEQ did an orderly shutdown of their monitors along the coast starting last week. I have attached their list of monitors that were shut down to this email. Most of the instruments were raised off the floor/lower levels of the monitoring buildings. Some of the monitors were moved to regional offices, if possible.

I do not have a schedule of when they will start to bring them back up due to initial efforts for assessment of impacts from Hurricane Harvey. I anticipate not before next week in Brownsville/Harlingen area. In the storm-ravaged areas from Corpus Christi to Houston to Beaumont, I expect the monitors will most likely be off-line for four to eight weeks, depending on damage in and around monitor locations.

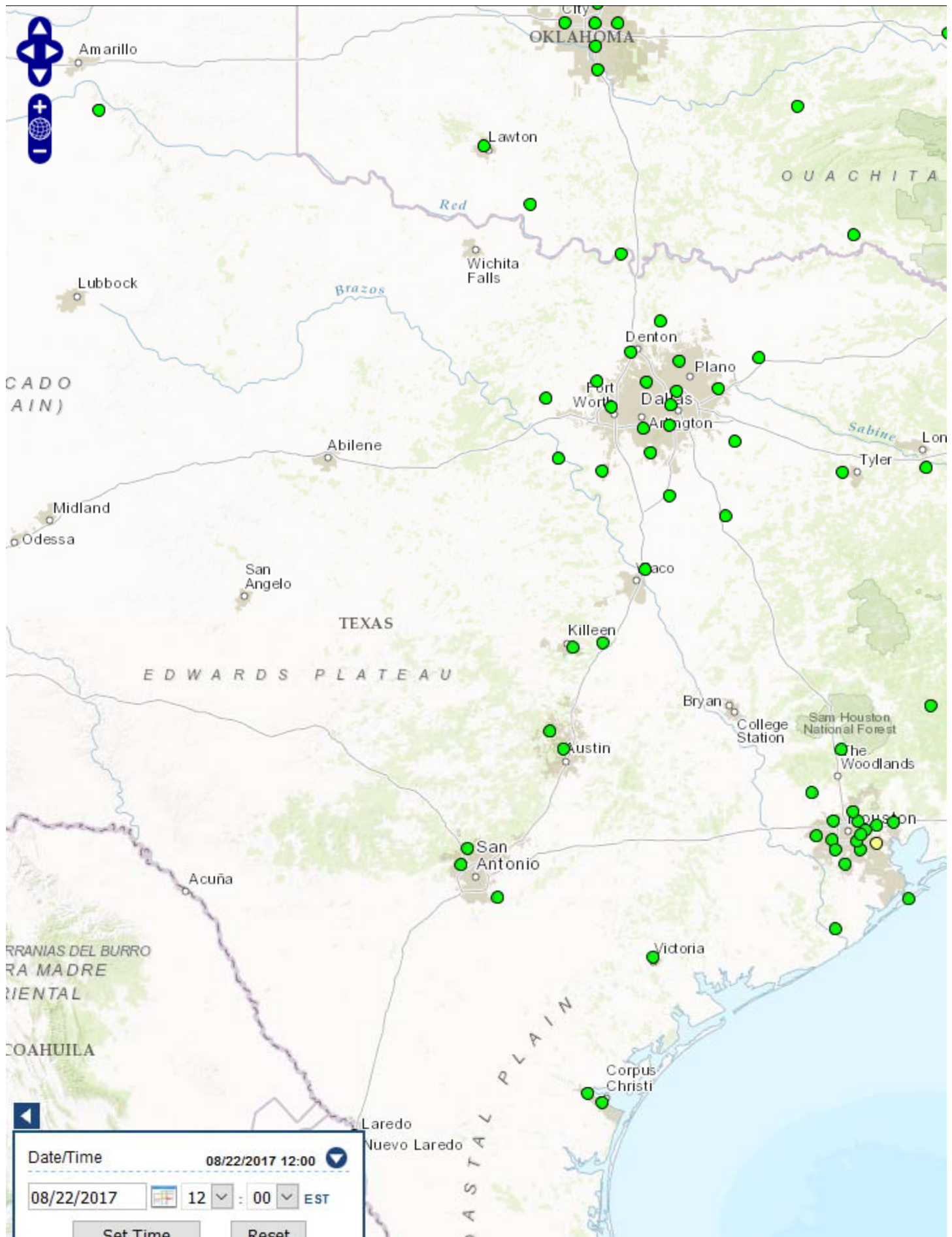
Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
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**From:** Weinstock, Lewis  
**Sent:** Tuesday, August 29, 2017 2:11 PM  
**To:** Naess, Liz <[Naess.Liz@epa.gov](mailto:Naess.Liz@epa.gov)>; Hemby, James <[Hemby.James@epa.gov](mailto:Hemby.James@epa.gov)>  
**Cc:** OAQPS AQAD GL <[OAQPS\\_AQAD\\_GL@epa.gov](mailto:OAQPS_AQAD_GL@epa.gov)>; Wayland, Richard <[Wayland.Richard@epa.gov](mailto:Wayland.Richard@epa.gov)>; OAQPS AQAD AAMG <[OAQPS\\_AQAD\\_AAMG@epa.gov](mailto:OAQPS_AQAD_AAMG@epa.gov)>; Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>; Dickerson, Phil <[Dickerson.Phil@epa.gov](mailto:Dickerson.Phil@epa.gov)>  
**Subject:** TX ozone network - Before and Now

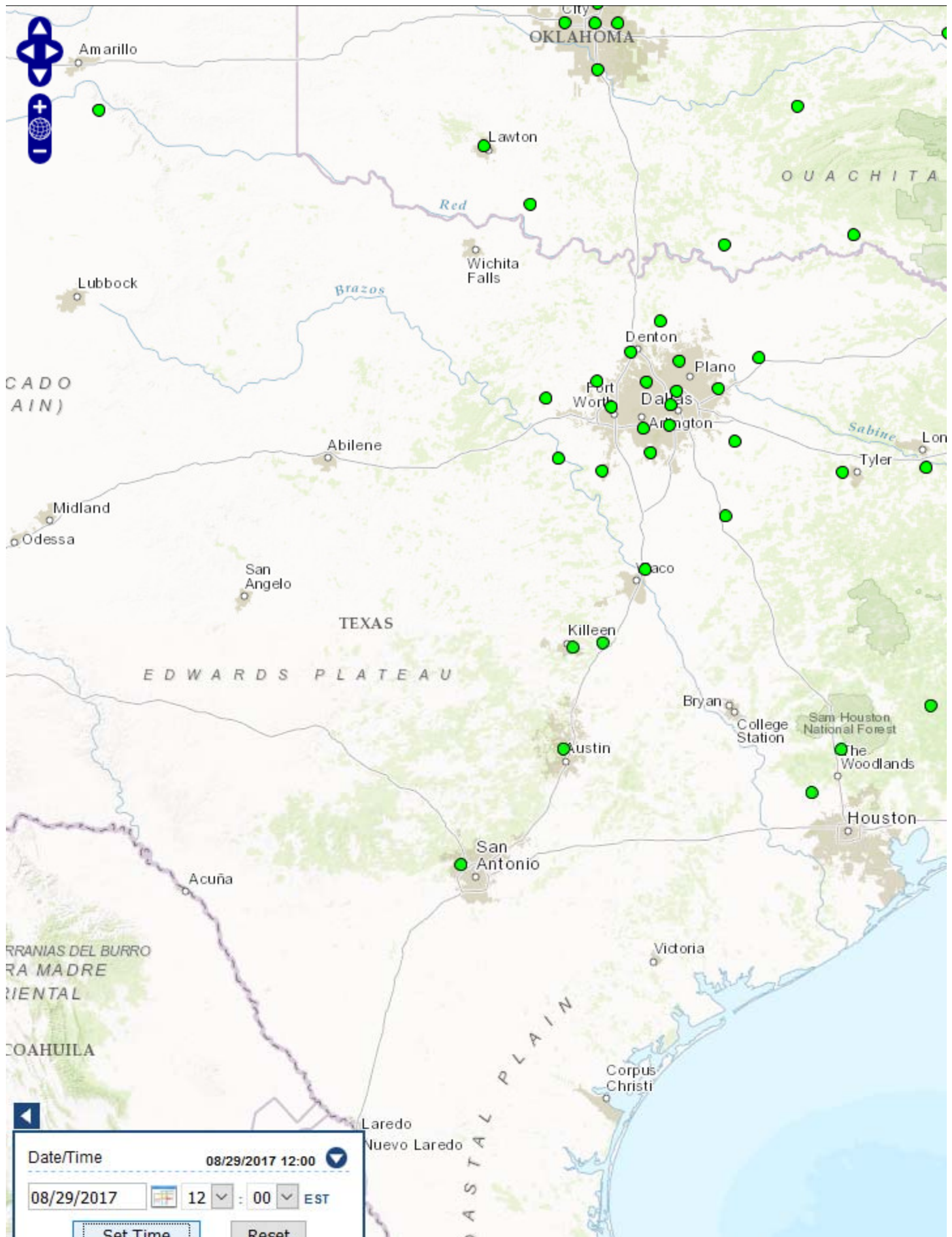
It appears that TCEQ started downing instruments on August 23.

TX ozone network on August 22:



TX ozone network today:





**From:** Naess, Liz

**Sent:** Tuesday, August 29, 2017 2:43 PM

**To:** Hemby, James <[Hemby.James@epa.gov](mailto:Hemby.James@epa.gov)>; Weinstock, Lewis <[Weinstock.Lewis@epa.gov](mailto:Weinstock.Lewis@epa.gov)>

**Cc:** OAQPS AQAD GL <[OAQPS\\_AQAD\\_GL@epa.gov](mailto:OAQPS_AQAD_GL@epa.gov)>; Wayland, Richard <[Wayland.Richard@epa.gov](mailto:Wayland.Richard@epa.gov)>

**Subject:** RE: REQUEST FOR ASSISTANCE -- FW: Hurricane Response/Press Support

FYI, David was on a call with R6 earlier today and they said 300 monitors were down right now in TX (the word from TCEQ).

-----

Liz Naess, Ph.D.

Air Quality Analysis Group

U.S. EPA OAQPS/AQAD

Research Triangle Park, NC 27711

919.541.1892

2015 Air Trends Report:

<https://gispub.epa.gov/air/trendsreport/2017/>

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, August 29, 2017 4:20 PM  
**To:** Landis, Elizabeth  
**Cc:** Crawford, Dorothy; Madden, Joshua; Knoll, Justin; Barnard, Bill R.; Rice, Joann; Tufts, Jenia  
**Subject:** RE: Deer Park CSN Site

Thank you, Beth. My staff in Dallas are high and dry. I have emailed Clarence Jackson who runs the NPAP program out of Houston and he doing okay.

There is a lot of standing water and Harvey is not done with us yet. We are expecting landfall again tomorrow or Thursday, with substantial rainfall over the area from Houston east to New Orleans.

I tend to agree that the monitor is shut down, as Deer Park site has a lot of equipment. I suspect that Houston will not be operational for at least another full week, at the very earliest. The rains should stop probably Friday, then the flood water will need to subside before TCEQ staff can get back into areas to assess damage and determine any corrective actions necessary to bring the monitoring stations back on line. I have not heard any word on the availability of electricity or if the roadways are flooded/damaged due to excessive water in the Deer Park area.

More news as we get it.

Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

---

**From:** Landis, Elizabeth  
**Sent:** Tuesday, August 29, 2017 3:12 PM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Cc:** Crawford, Dorothy <Crawford.Dorothy@epa.gov>; Madden, Joshua <madden.joshua@epa.gov>; Knoll, Justin <Justin.Knoll@amecfw.com>; Barnard, Bill R. <Bill.Barnard@amecfw.com>; Rice, Joann <Rice.Joann@epa.gov>; Tufts, Jenia <Tufts.Jenia@epa.gov>  
**Subject:** Deer Park CSN Site

Hi Fran,

Per the spreadsheet you provided earlier with samplers that were shutdown, we suspect that the Deer Park CSN site is currently not operating. Do you have a feel for how long this site will be down? Amec can suspend shipment of samples until they are ready to resume.

Any information you can provide is appreciated. We hope that you and your staff are all safe, we are thinking of everyone in TX.

Thanks,  
- Beth

Elizabeth Landis

U.S. Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Ambient Air Monitoring Group C304-06  
Research Triangle Park, NC 27709  
919-541-2262

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Wednesday, August 30, 2017 7:32 AM  
**To:** Julie Eldredge  
**Cc:** holly.landuyt@tceq.texas.gov (holly.landuyt@tceq.texas.gov); Crawford, Dorothy; Madden, Joshua  
**Subject:** Deer Park CSN Filters

Julie,  
I am notifying you that EPA is stopping shipment of filters for the CSN monitor at the Deer Park monitoring location until the monitor is operational again. Please let me know when you put this instrument back online and we will resume shipments of filters.

I hope you are able to get everything operational quickly. Let me know if there is anything I can do to assist you.

Fran

Frances Verhalen, P.E., Chief  
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US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Friday, September 01, 2017 8:23 AM  
**To:** Mitchell, Mariama; Patterson, Donnett  
**Cc:** Donaldson, Guy; Hazle, Donnie  
**Subject:** TCEQ Funding for PM work associated with Harvey

I spoke with Brandy Brooks, TCEQ Deputy Director for Monitoring, yesterday afternoon and this morning. She said that, at this time, TCEQ appreciates the offer from EPA to send money for PM monitoring associated with debris burning but will decline the funds. It is too early in the recovery process for TCEQ to anticipate open burning of debris associated with cleanup efforts after Harvey.

So, let's continue with the plans from yesterday to de-obligate the PM money and send it back to HQ for reprogramming to another Region.

Frances Verhalen, P.E., Chief  
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1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Friday, September 01, 2017 10:27 AM  
**To:** Weinstock, Lewis  
**Subject:** TCEQ Monitors

TCEQ is bringing their monitors back on line. We may not need to recommend a variance for completeness. We should know more on Tuesday. I am not preparing a letter at this time.

Have a safe and excellent Holiday weekend.

Frances Verhalen, P.E., Chief  
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US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, September 05, 2017 8:15 AM  
**To:** Julie Eldredge  
**Cc:** Holly.Landuyt\_tceq.texas.gov; Crawford, Dorothy; Madden, Joshua  
**Subject:** RE: Deer Park CSN Filters

Will do.

Thank you for getting this and all the other stations up and running quickly. We appreciate your ongoing efforts to monitor the air quality in Texas.

Frances Verhalen, P.E., Chief  
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US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

---

**From:** Julie Eldredge [mailto:Julie.Eldredge@Tceq.Texas.Gov]  
**Sent:** Monday, September 04, 2017 9:06 AM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Cc:** Holly.Landuyt\_tceq.texas.gov <Holly.Landuyt@tceq.texas.gov>; Crawford, Dorothy <Crawford.Dorothy@epa.gov>; Madden, Joshua <madden.joshua@epa.gov>  
**Subject:** RE: Deer Park CSN Filters  
**Importance:** High

Hello Fran,

Deer Park is back-up and operational. Can you please resume the shipment of the filters?

Thank you,  
*Julie Eldredge*  
Section Manager  
Ambient Monitoring Section, MC-165  
Monitoring Division, Office of Compliance and Enforcement  
Texas Commission on Environmental Quality  
512-239-1714  
[julie.eldredge@tceq.texas.gov](mailto:julie.eldredge@tceq.texas.gov)

---

**From:** Julie Eldredge  
**Sent:** Wednesday, August 30, 2017 10:07 AM  
**To:** 'Verhalen, Frances' <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>  
**Cc:** Holly Landuyt <[Holly.Landuyt@tceq.texas.gov](mailto:Holly.Landuyt@tceq.texas.gov)>; Crawford, Dorothy <[Crawford.Dorothy@epa.gov](mailto:Crawford.Dorothy@epa.gov)>; Madden, Joshua <[madden.joshua@epa.gov](mailto:madden.joshua@epa.gov)>  
**Subject:** RE: Deer Park CSN Filters

Fran,



Thank you for the information. We will let you know when the monitor is operational again.

Thank you,

*Julie Eldredge*

Section Manager

Ambient Monitoring Section, MC-165

Monitoring Division, Office of Compliance and Enforcement

Texas Commission on Environmental Quality

512-239-1714

[julie.eldredge@tceq.texas.gov](mailto:julie.eldredge@tceq.texas.gov)

---

**From:** Verhalen, Frances [<mailto:verhalen.frances@epa.gov>]

**Sent:** Wednesday, August 30, 2017 7:32 AM

**To:** Julie Eldredge <[Julie.Eldredge@Tceq.Texas.Gov](mailto:Julie.Eldredge@Tceq.Texas.Gov)>

**Cc:** Holly Landuyt <[Holly.Landuyt@tceq.texas.gov](mailto:Holly.Landuyt@tceq.texas.gov)>; Crawford, Dorothy <[Crawford.Dorothy@epa.gov](mailto:Crawford.Dorothy@epa.gov)>; Madden, Joshua <[madden.joshua@epa.gov](mailto:madden.joshua@epa.gov)>

**Subject:** Deer Park CSN Filters

Julie,

I am notifying you that EPA is stopping shipment of filters for the CSN monitor at the Deer Park monitoring location until the monitor is operational again. Please let me know when you put this instrument back online and we will resume shipments of filters.

I hope you are able to get everything operational quickly. Let me know if there is anything I can do to assist you.

Fran

Frances Verhalen, P.E., Chief

Air Monitoring/Grants Section

US Environmental Protection Agency

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Dallas, TX 75202

214-665-2172

[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, September 05, 2017 8:18 AM  
**To:** Landis, Elizabeth  
**Cc:** Crawford, Dorothy; Madden, Joshua; Knoll, Justin; Barnard, Bill R.; Rice, Joann; Tufts, Jenia  
**Subject:** FW: Deer Park CSN Filters

**Importance:** High

Beth, Please resume shipment of CSN Filters to TCEQ at Deer Park in Houston. They are up and running again.

Thank you, Fran

Frances Verhalen, P.E., Chief  
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US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

---

**From:** Julie Eldredge [mailto:Julie.Eldredge@Tceq.Texas.Gov]  
**Sent:** Monday, September 04, 2017 9:06 AM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Cc:** Holly.Landuyt\_tceq.texas.gov <Holly.Landuyt@tceq.texas.gov>; Crawford, Dorothy <Crawford.Dorothy@epa.gov>; Madden, Joshua <madden.joshua@epa.gov>  
**Subject:** RE: Deer Park CSN Filters  
**Importance:** High

Hello Fran,

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Thank you,  
*Julie Eldredge*  
Section Manager  
Ambient Monitoring Section, MC-165  
Monitoring Division, Office of Compliance and Enforcement  
Texas Commission on Environmental Quality  
512-239-1714  
[julie.eldredge@tceq.texas.gov](mailto:julie.eldredge@tceq.texas.gov)

---

**From:** Julie Eldredge  
**Sent:** Wednesday, August 30, 2017 10:07 AM  
**To:** 'Verhalen, Frances' <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>  
**Cc:** Holly Landuyt <[Holly.Landuyt@tceq.texas.gov](mailto:Holly.Landuyt@tceq.texas.gov)>; Crawford, Dorothy <[Crawford.Dorothy@epa.gov](mailto:Crawford.Dorothy@epa.gov)>; Madden, Joshua <[madden.joshua@epa.gov](mailto:madden.joshua@epa.gov)>  
**Subject:** RE: Deer Park CSN Filters

Fran,

Thank you for the information. We will let you know when the monitor is operational again.

Thank you,

*Julie Eldredge*

Section Manager

Ambient Monitoring Section, MC-165

Monitoring Division, Office of Compliance and Enforcement

Texas Commission on Environmental Quality

512-239-1714

[julie.eldredge@tceq.texas.gov](mailto:julie.eldredge@tceq.texas.gov)

---

**From:** Verhalen, Frances [<mailto:verhalen.frances@epa.gov>]

**Sent:** Wednesday, August 30, 2017 7:32 AM

**To:** Julie Eldredge <[Julie.Eldredge@Tceq.Texas.Gov](mailto:Julie.Eldredge@Tceq.Texas.Gov)>

**Cc:** Holly Landuyt <[Holly.Landuyt@tceq.texas.gov](mailto:Holly.Landuyt@tceq.texas.gov)>; Crawford, Dorothy <[Crawford.Dorothy@epa.gov](mailto:Crawford.Dorothy@epa.gov)>; Madden, Joshua <[madden.joshua@epa.gov](mailto:madden.joshua@epa.gov)>

**Subject:** Deer Park CSN Filters

Julie,

I am notifying you that EPA is stopping shipment of filters for the CSN monitor at the Deer Park monitoring location until the monitor is operational again. Please let me know when you put this instrument back online and we will resume shipments of filters.

I hope you are able to get everything operational quickly. Let me know if there is anything I can do to assist you.

Fran

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214-665-2172

[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)

## Verhalen, Frances

---

**From:** Stenger, Wren  
**Sent:** Tuesday, September 05, 2017 11:36 AM  
**To:** Verhalen, Frances  
**Subject:** FW: Message from "RNP002673A39310"  
**Attachments:** 20170905083432795.pdf

Article discussed this AM. FYI

---

**From:** Seager, Cheryl  
**Sent:** Tuesday, September 05, 2017 10:00 AM  
**To:** Stenger, Wren <stenger.wren@epa.gov>; Price, Lisa <Price.Lisa@epa.gov>  
**Subject:** Fwd: Message from "RNP002673A39310"

Sent from my iPhone

Begin forwarded message:

**From:** "Seager, Cheryl" <[Seager.Cheryl@epa.gov](mailto:Seager.Cheryl@epa.gov)>  
**Date:** September 5, 2017 at 8:28:43 AM CDT  
**To:** "[ramiro.garcia@tceq.texas.gov](mailto:ramiro.garcia@tceq.texas.gov)" <[ramiro.garcia@tceq.texas.gov](mailto:ramiro.garcia@tceq.texas.gov)>, "[parker.wilson@valero.com](mailto:parker.wilson@valero.com)" <[parker.wilson@valero.com](mailto:parker.wilson@valero.com)>  
**Subject:** FW: Message from "RNP002673A39310"

Article

-----Original Message-----

From: [9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov) [[mailto:9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov)]  
Sent: Tuesday, September 05, 2017 8:35 AM  
To: Seager, Cheryl <[Seager.Cheryl@epa.gov](mailto:Seager.Cheryl@epa.gov)>  
Subject: Message from "RNP002673A39310"

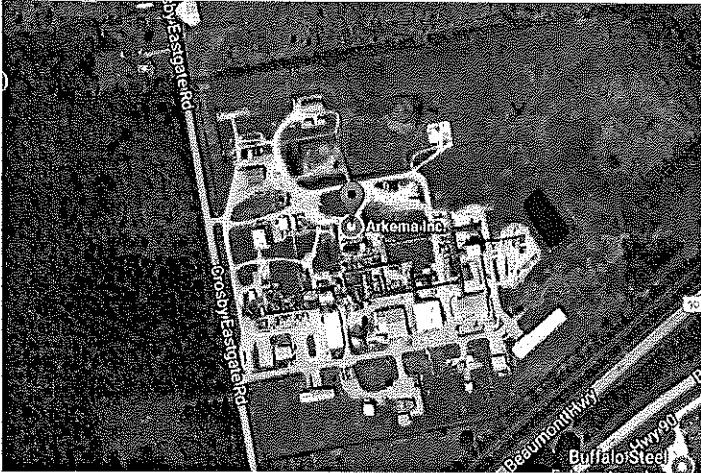
This E-mail was sent from "RNP002673A39310" (MP C3003).

Scan Date: 09.05.2017 08:34:32 (-0500)  
Queries to: [9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov)

# Harvey causes chemical companies to release 1 million pounds of extra air pollutants

Oil refineries and chemical plants across the Texas Gulf Coast released more than 1 million pounds of dangerous air pollutants in the week after Harvey struck, according to filings.

BY STEVEN MUFSON, THE WASHINGTON POST   SEPT. 4, 2017   11 HOURS AGO



Satellite view of the Arkema SA chemical plant in Crosby, Texas.

Oil refineries and chemical plants across the Texas Gulf Coast released more than 1 million pounds of dangerous air pollutants in the week after Harvey struck, according to public regulatory filings aggregated by the Center for Biological Diversity.

While attention has zeroed in on the crisis at the Arkema chemical plant in Crosby, other facilities — oil refineries, chemical plants and shale drilling sites — have been reporting flaring, leaks and chemical discharges triggered by Harvey.

Emissions have already exceeded permitted levels, after floating rooftops sank on oil storage tanks, chemical storage tanks overflowed with rainwater, and broken valves and shutdown procedures triggered flaring at refineries.

The chemicals released in the week after Harvey made landfall, including benzene, 1,3-butadiene, hexane, hydrogen sulfide, sulfur dioxide, toluene and xylene.

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All seven chemicals are toxic air pollutants documented to harm human health; several cause cancer. Other emissions would bring the total to more than 5 million pounds, the Center for Biological Diversity said.

“Our general concern is the fact that these are relatively unseen environmental threats that don’t normally get recognized,” said Elena Craft, a toxicologist at the Environmental Defense Fund.

Further damage and emissions across the region could be uncovered in the coming weeks as floodwaters recede, and chemical safety experts warned that restarting plants could carry as many dangers as the shutdowns.

“We are not out of the woods yet, not the entire industry,” said M. Sam Mannan, a professor of chemical engineering at Texas A&M University and director of an institute that studies safety procedures in chemical factories.

In addition, winding rivers overflowed and washed over some of the waste pits and drilling pads at shale gas and shale oil drilling sites in the Eagle Ford play in Central Texas, according to satellite imagery collected by Sky Truth, a nonprofit group that monitors the environment. The extent of the damage was not clear.

“It’s unsafe and unacceptable for the petroleum industry to be releasing these massive quantities of air pollutants when storms hit,” said Shaye Wolf, climate science director of the Center for Biological Diversity. She added that the companies could do more to limit flaring and leaks. “That shouldn’t be common industry practice,” she said.

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Companies have two weeks to submit filings to the Texas Commission on Environmental Quality so those figures could increase substantially. But the filings so far give a good picture of some of the problems.

The most common problem in oil refineries has been floating rooftops on storage tanks. Because petroleum is flammable, open space in a tank would collect dangerous vapors. So the oil industry storage tanks have round lid-like rooftops that rise and fall with the level of liquid in the tanks. With heavy rains, many were damaged and sank from the weight, leaving crude oil or petroleum products in the open air emitting fumes. In some cases, they have caused spills too.

Rooftops sank at four tanks at the Pasadena products terminal of Phillips 66. Three sank at the Pasadena terminal of Kinder Morgan, a pipeline company. Two were damaged at

Shell's Deer Park refinery. One each sank at Valero Energy Partners' Houston terminal, Marathon's Texas City plant and ExxonMobil's Baytown refinery.

Shell said one leaky tank, discovered during cleanup operations, allowed oil to run out into a surrounding berm. "The leak has been isolated, and we're in the process of cleaning it up," said Shell spokeswoman Kimberly Windon, who added that there was "no offsite impact."

Flooding has posed other challenges. For a week, BASF, the second largest producer of chemical products in North America, has been struggling to contain rainfall at its Beaumont Agro plant, according to BASF's filings with the Texas Commission on Environmental Quality. The plant produces pesticides, herbicides and insecticides.

The company started trucking waste water off the site the week before landfall in an attempt to maximize water storage capacity. Then, unable to contain contaminated storm water and process waste water, the company shut down operations on Aug. 27 and brought in temporary water storage capacity. Nonetheless, the tanks overflowed, spilling chemicals into a diked containment area. The containment area then overflowed to the surrounding ground.

Roberto Nelson, BASF's senior manager for community relations, said a test of leaking waste water on Aug. 29 "indicated there were trace amounts of nonhazardous process chemicals in the discharge water." He added that the overflow stopped on Aug. 31.

At ExxonMobil's Beaumont oil refinery, oil flowed over a 10-foot levee and spilled onto a nearby county road, due to the rising Neches River, an ExxonMobil spokeswoman told the local newspaper, the Beaumont Enterprise. A different spokeswoman, Suann Guthrie said the company was "closely monitoring" and "taking steps" to contain two sheens.

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Oil and chemical companies have also been flaring large amounts of gases, beyond levels ordinarily permitted by the Environmental Protection Agency or TCEQ.

On Sept. 2, the TPC Group said in a TCEQ filing that it was working to control the source of gases being flared at its Port Neches facility. It has already emitted an estimated 1,000 pounds of carbon monoxide and 1,000 pounds of nitrogen oxides, well beyond the state's permitted levels. Nitrogen dioxide is an air pollutant by itself and reacts in the atmosphere to form ozone. It also contributes to breathing problems and acid rain.

Huntsman Petrochemical on Sept. 2 reported it had flared an estimated 1,000 pounds of methyl tert-butyl ether, used as an oxygenate in gasoline and regulated in California. The flaring exceeded the Texas limit of 0.04 pounds an hour for the plant.

Total said in a filing Friday that its petrochemical refinery in Port Arthur had no power and over a 48-hour period had flared half a dozen chemicals, emitting sulfur dioxide in one flare that was 50 times greater than the regulatory limit.

“A facility that shuts down may employ flaring of excess gasses that cannot be processed,” Cal Dooley, president of the American Chemistry Council, said in a statement Thursday. “Flaring is an approved way to safely relieve pressure during a unit shutdown and is considered an industry ‘best practice.’ These controlled releases are done with the permission of state and federal regulatory authorities.”

Texas is the nation’s largest producer of chemicals, with \$129 billion in shipments and 79,000 employees, according to Dooley’s group.

The Environmental Protection Agency on Saturday reassured residents about health concerns. Yet the city of Houston registered up to 15,000 parts per billion of smog-forming volatile organic compounds in and around the Valero refinery in east Houston’s Manchester neighborhood, as well as at other refineries in the region. These concentrations are at least 10 times higher than health officials deem safe, the nonprofit group EDF said in a statement.

The EDF’s Craft said “EPA said inaccurately and inappropriately that residents should not be concerned about the air quality around Houston.” The Houston area was under alert for ground-level ozone, a lung-damaging air pollutant, for the fourth day in a row, according to the EPA’s Air Now Web site.

Mannan, the chemical engineer at Texas A&M, last year wrote a study ranking Houston-area facilities by their potential to cause harm to the public during a disaster. He said restarting production at dozens of waterlogged plants poses enormous risks for workers and the public.

“Additional events could happen because, if you think about it, a lot of these tanks got submerged in water and a tremendous amount of force is created in 40 feet of water. It can move the tanks around or deform them,” he said.

“Every piece of equipment, every tank, has been battered by the flooding,” Mannan said. “You have to go through and check every piece of equipment. A lot of hard work is still left, and a lot of potential for incidents is still there.”



## Verhalen, Frances

---

**From:** Donaldson, Guy  
**Sent:** Tuesday, September 05, 2017 1:33 PM  
**To:** Verhalen, Frances; Walser, John  
**Subject:** FW: 9-5-17 0700 Update.pdf  
**Attachments:** 9-5-17 0700 Update.pdf

FYI,

Fran,

The air monitoring around Valero is mentioned here. Fog of war so to speak. Hopefully you can get to the bottom of it.

John,

Various info on pipeline status.

---

**From:** Wooster, Richard  
**Sent:** Tuesday, September 05, 2017 7:58 AM  
**To:** R6 6WQ-PT <R6\_6WQPT@epa.gov>  
**Cc:** Donaldson, Guy <Donaldson.Guy@epa.gov>  
**Subject:** 9-5-17 0700 Update.pdf

FYI



## Hurricane Harvey 2017 9/5/2017 – 0700 CDT Update

### EXECUTIVE SUMMARY

- On September 4, 2017, the President approved the addition of seven more counties (Austin, Bastrop, DeWitt, Gonzales, Karnes, Lavaca, Lee) to the Disaster Declaration. This brings the total number of counties on the Presidential Disaster Declaration to 39.
- The Acting Regional Administrator, the Chairman of TCEQ and Special Advisors to the Administrator will brief Mayor today. EPA Liaison has embedded with Houston Mayor's office. Afterwards, they toured three Superfund sites targeted for inspection and briefed Senator John Cornyn's office.
- EPA Ronnie Crossland, Senior liaison will join TCEQ Chairman Shaw for briefing with Governor Abbott this morning. Acting RA Coleman will join by telephone.
- The Acting Regional Administrator and Special Advisors to the Administrator plan to visit the Houston command post today and the Beaumont command post on Wednesday.
- EPA has demobilized from the Arkema site.
- EPA continues to be embedded with response partners on teams performing Department of Water/ Waste Water (DW/WW) system assessments, hazard evaluations, and container recovery operations.
- EPA continues to conduct ambient air monitoring in Houston, and is evaluating an area of potential concern associated with air pollution from a Valero facility in Houston. EPA's Trace Atmospheric Gas Analyzer (TAGA) will conduct air monitoring in southeast Houston around the Valero Refinery.

### PUBLIC AFFAIRS

EPA has deployed a Public Information Officer to the FEMA Joint Field Office in Austin. The PIO will be EPA representative to the federal Joint Information Center (JIC).

The EPA will host a call with key Environmental Justice (EJ) contacts in Texas and Louisiana on September 5, 2017. The purpose of the call is to reach out to EJ contacts to discuss and listen to community environmental concerns in the areas impacted by Hurricane Harvey. EPA is

establishing an EJ Network and will convene weekly calls to keep the Network abreast of EJ related environmental concerns associated with the current emergency situation. EPA has also fielded calls and emails from EJ contacts seeking information on locating and gathering re-entry supplies, instructions on minimizing environmental hazards, disinfecting private wells, shelter in place guidance in Spanish, and elevated benzene levels along with other compounds in ambient air samples in a neighborhood near the intersection of 225 and 610 in Houston. Callers were directed to the appropriate website, local contact, FEMA or the REOC.

Preparations are being made for Community Liaisons to be deployed to the Houston area later this week. The Community Liaisons will be involved in disseminating information on the hazards of flood waters, mold, residential well water testing, and other issues. Their role will take them to the neighborhoods, rural areas and partnering with local businesses and other federal and local agencies.

## DEBRIS RECOVERY

EPA currently has no mission assignment for debris recovery operations.

## AIR MONITORING

EPA's mobile air monitoring TAGA bus along with EPA personnel will be operational today.

EPA continued to conduct air monitoring near the Valero Refinery in areas north and south of the intersection of 225 and 610 in Houston. Additional sampling locations were added to include a number of schools and parks. EPA contacted the Houston Health Department (HHD) to discuss concerns they received and had regarding elevated benzene and toluene levels detected in the neighborhood next to the Valero refinery. HHD is currently conducting air monitoring from a mobile laboratory as well as with additional ground support. HHD expressed an interest in EPA possibly taking over the air monitoring in the future so they could continue to address the growing number of locations in the Houston area.

## EMERGENCY RESPONSE

Daily/Cumulative Summary of Hazard Evaluations/Recovery				
Status	Opened		Closed	
	9/4/2017	Cumulative	9/4/2017	Cumulative
Corpus Christi Branch	3	46	8	58
Houston Branch	33	127	5	15
NRC Reports	0	3	0	0
* Note: Open means the target is yet to be recovered. Closed means the target was recovered/left in place or access was denied to collect the item.				

Daily/Cumulative Summary of Spills/Discharges				
Status	Opened		Closed	
	9/4/2017	Cumulative	9/4/2017	Cumulative
Corpus Christi Branch	12	351	4	32
Houston Branch	7	37	3	6
NRC Reports	6	27	8	15

## FIELD RESPONSE ACTIVITIES

The table below displays the teams deployed in the Corpus Christi, Houston and Port Arthur Branches during this operational period:

Quantity and Types of Teams Deployed 9/4/2017			
Team Type	Corpus Christi Branch	Houston Branch	Port Arthur / Beaumont
Water Assessment Teams	1	10	0
Hazard Evaluation	1	21	3
Oil Discharge Assessment	2	3	0
Container Recovery	2	0	0
Oil Recovery Group	3	0	0
ER/Recovery Group	3	1	0
Arkema Group	0	1	0
Air Operations Group	0	2	0

### CORPUS CHRISTI BRANCH:

- Personnel completed pre-sampling and fencing on the two staging pads. The pads are located in Port Aransas and Aransas Pass.
- In the City of Rockport, a team assessed an elevated tank. City engineers recommended that the city drain the tank and disassemble it due to structural damage.
- In Holiday Beach, a team met with the water system operator and board members to discuss their concerns and issues. The water system operator stated that more parts are needed for repairs of all the distribution, but all current leaks have been fixed.
- TCEQ operations were turned back over to the TCEQ regional office.
- Ten drums, three tanks greater than 55 gallons and 1 cylinder were recovered, closing a total of seven assessments.

	CONTAINERS			TOTAL
	Drums [55 gals]	Large Containers [<55 gals]	Large Containers [>55 gals]	
9/4/2017	10	0	3	13
Total to date	49	32	5	86

### HOUSTON BRANCH:

- Hazard Evaluation teams conducted assessments in Lincoln County and Chambers County. 40 sites will need additional response actions. Hazard Evaluation Assessment status: 90% complete in Lincoln County, 30% in Chambers County and 10% in Austin County. All other counties in the Houston Branch are 0% complete.
- Air reconnaissance conducted an aerial overflight of Austin County and Colorado County to assess flooding extent and pollution. Seven sites were identified for ground assessment.

- Discharge Monitoring teams oversaw fuel transfer and ten facility discharge targets were closed out.
- ASPECT conducted flights to Chambers County, Wharton County and Matagorda County. In Chambers County, ASPECT photographed the remaining Rapid Needs Assessment (RNA) targets (approximately 15) and then proceeded to RNA sites in Wharton and Matagorda Counties (approximately 110 sites). There were no chemical detections. ASPECT's reach back team is consolidating all positive chemical detections from all flights and preparing tabular and geospatial products for the Region.

#### **PORT ARTHUR/BEAUMONT BRANCH:**

- It is anticipated that the Port Arthur/Beaumont Branch should be fully stood up by Wednesday, September 6, 2017.
- A hazard evaluation team assessed the Neches Park, Sabine Pass and Sabine. High water prevents ground operations at this time. A second hazard evaluation team visited Motiva. Motiva has no power and is shut down. The team also contacted and confirmed that the Colonial Pipeline is still non-operational.
- Teams conducted assessments and identified 10 sites for reassessment.

#### **DRINKING WATER / WASTEWATER ASSESSMENTS**

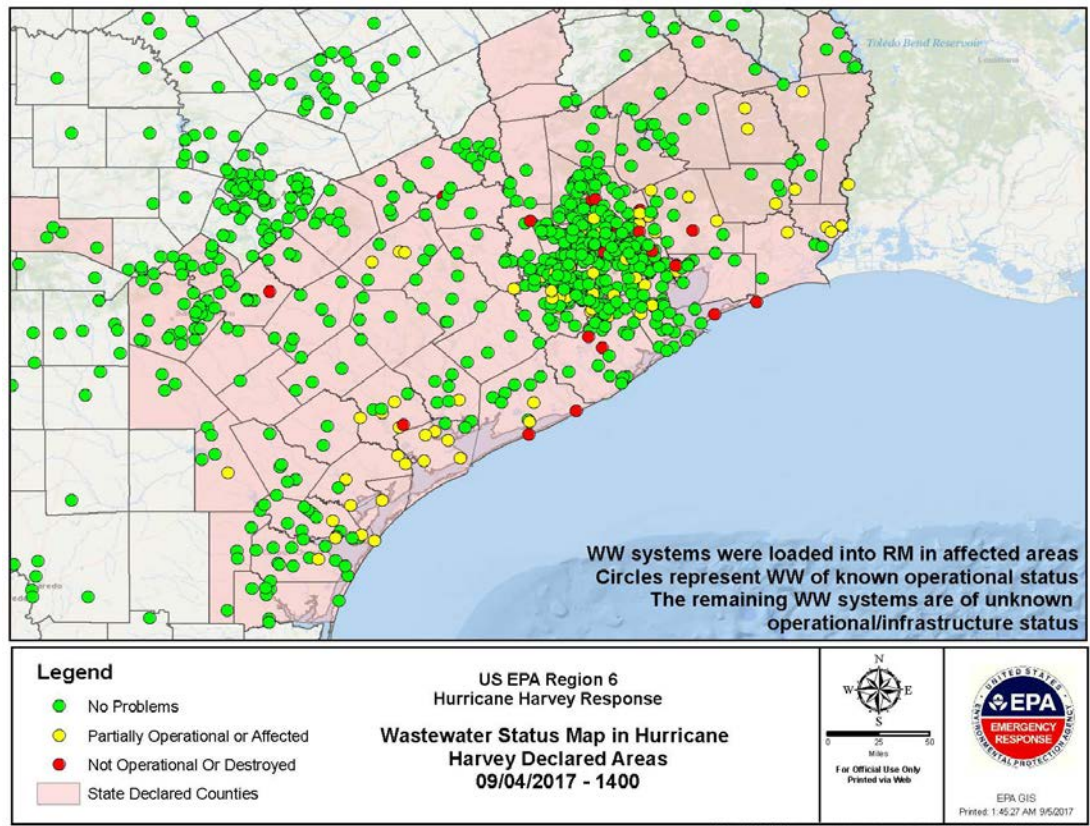
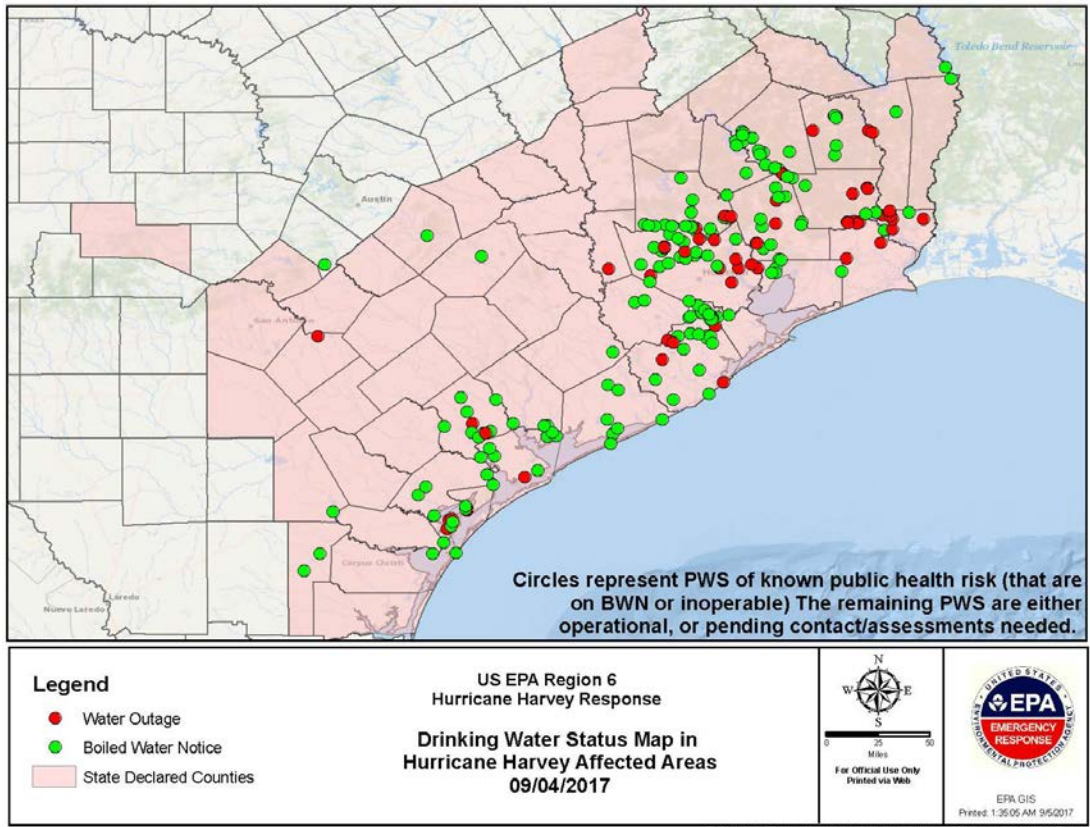
EPA is providing support to TCEQ for drinking water (DW) and wastewater (WW) system assessments. There are 10 members at the TCEQ Austin phone bank including one assisting with data flow. In addition, DW and WW assessment teams are currently set up in Houston, with additional members arriving this week. Current response activities consist of six members from EPA Region 6 conducting DW or WW assessments in Houston. Also, two members are providing assistance to the City of Beaumont in coordination with TCEQ, with their home base in Houston. In the next day, there will be seven from EPA Region 7 and one from Region 2 to form additional DW and WW teams for conducting field assessments in the Houston Branch.

Of the approximately 4500 water systems that were initially projected to be impacted by Hurricane Harvey, approximately 3,607 systems were in the affected area (58 State Declared Counties).

Of the systems in the affected areas, 2,175 are public water systems that serve a population of 10,878,982 and 596 are non-transient non-community (NTNC) water systems that serve hospitals, health care facilities, nursing homes and day cares, with a population of 216,871.

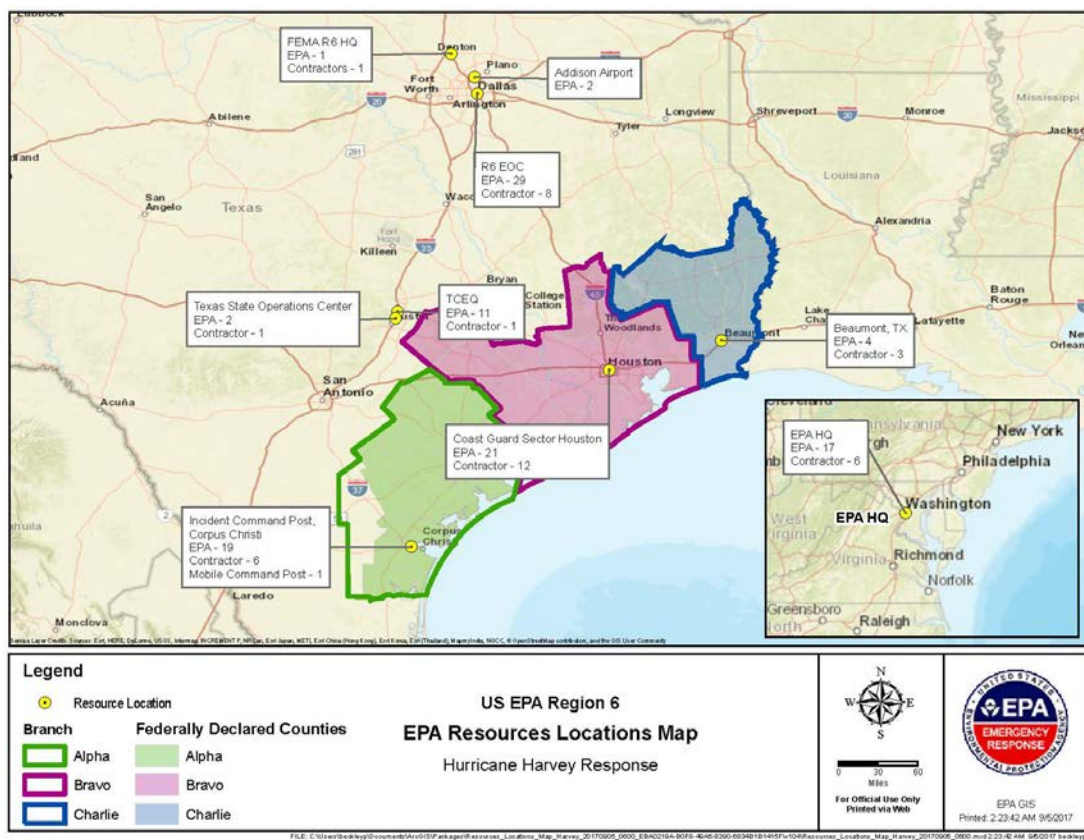
As of 1700 September 4, 2017 the EPA and TCEQ have made contact with 2,252 public and NTNC water systems and have confirmed 1,507 are fully operational and servicing water to a population of 9,523,361. As of September 4, 2017, there are 148 systems that have reported being on a boil water notice and 50 have reported a water outage.





## EPA RESOURCES

Personnel	EPA Dallas, TX	FEMA Denton, TX	TX SOC Austin, TX	TCEQ Austin, TX	Houston, TX	Corpus Christi, TX	Beaumont/ Port Arthur	HQ EOC, Wash, DC	TOTAL
EPA	29	1	2	11	21	19	4	17	104
START	7	1	1	1	12	6	3		31
ERRS					7	8			15
Other Contractors	1							6	7
TOTAL	37	2	3	12	40	33	7	23	157



## FUNDING

September 4, 2017

SitRep							
September 4, 2017, UPDATED 1300 hours							
	Funding Sources	Funding Ceiling	Funding Ceiling Less Indirect	Spent to Date	Remaining Balance	Daily Burn Rate	Days Remaining
	Non Mission Assignment	N/A		\$64,200.00	\$0.00		
	MA 4332DR-TX-EPA-01	\$20,000.00	\$17,654.00	\$13,424.00	\$4,230.00	\$2,848.00	1.49
	MA 4332DR-TX-EPA-03	\$8,592,000.00	\$7,584,077.00	\$3,419,017.00	\$4,165,060.00	\$236,348.84	17.62
	Totals:	\$8,612,000.00	\$7,601,731.00	\$3,496,641.00	\$4,169,290.00		
** Indirect costs represent the money the Cincinnati Shared Service Center takes off the top to manage the Mission Assignments							

\*Burn rate does not include daily ERRS amounts, not yet received. The burn does include START & ASPECT.

## REFINERIES/FUEL WAIVERS

No New Information.

The Department of Energy authorized the Strategic Petroleum Reserve (SPR) to negotiate and execute an emergency exchange agreement with the Phillips 66 Lake Charles Refinery. This decision will authorize 200,000 barrels of sweet crude oil and 300,000 barrels of sour crude oil to be drawn down from SPR's West Hackberry, Louisiana (LA) site and delivered via pipeline to the Phillips 66 Lake Charles refinery.

Four No Action Assurance (NAA) letters were signed by EPA on September 1, 2017, and are effective until September 15, 2017. NAAs can help relieve fuel shortages by expediting the distribution of existing supplies in both Texas and Louisiana until impacted refineries can resume normal operations. It is anticipated this will allow for the immediate distribution of 10 million or more gallons of refined product. For each NAA, EPA will exercise discretion not to pursue enforcement for violations of the identified regulations ranging from inadequate vapor recovery and fuel truck documentation to tank refilling procedures at bulk fuel terminals.

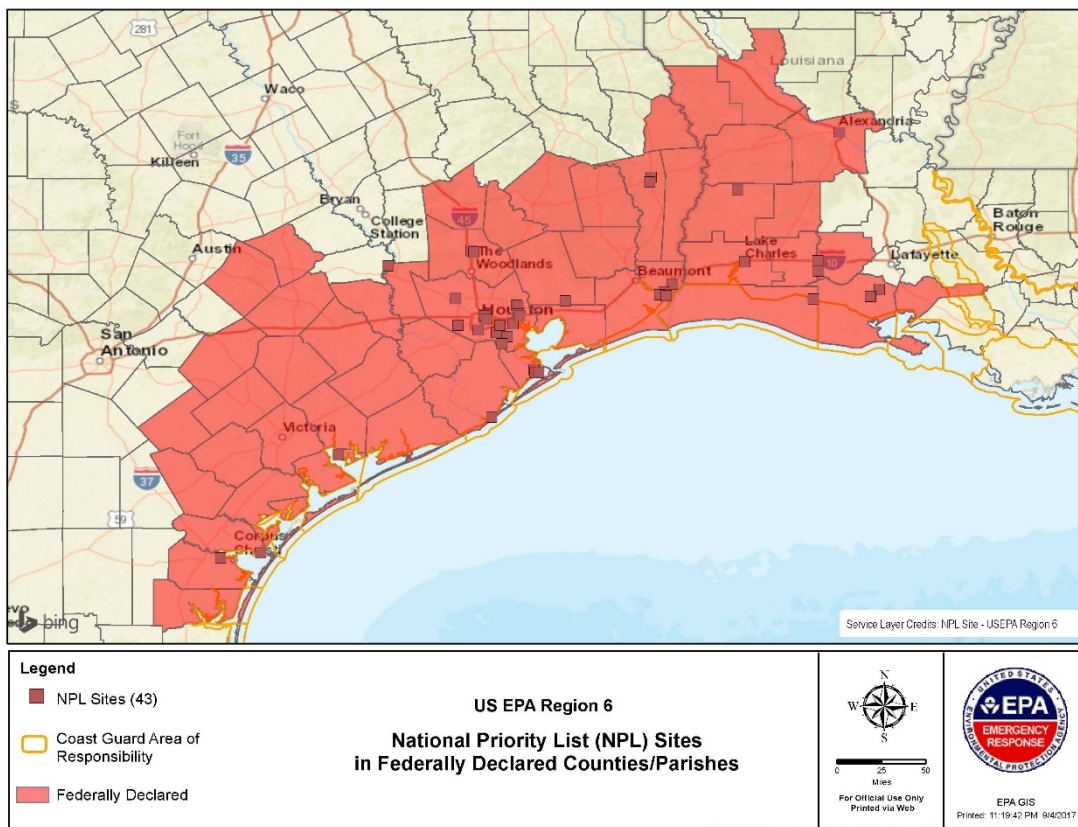
## SUPERFUND NPL SITES

### NPL Site Inspections

- 43 NPL sites are located in the affected area, of these
- 43 NPL sites have had rapid assessments, of these
- 13 NPL sites required follow up inspections
  - 5 site inspections completed before 9/4/2017
  - 6 site inspections completed on 9/4/2017
  - 2 site inspections will be completed on 9/5/2017

As a result of these inspections, two sites (San Jacinto Pits and US Oil Recovery) require added inspection.



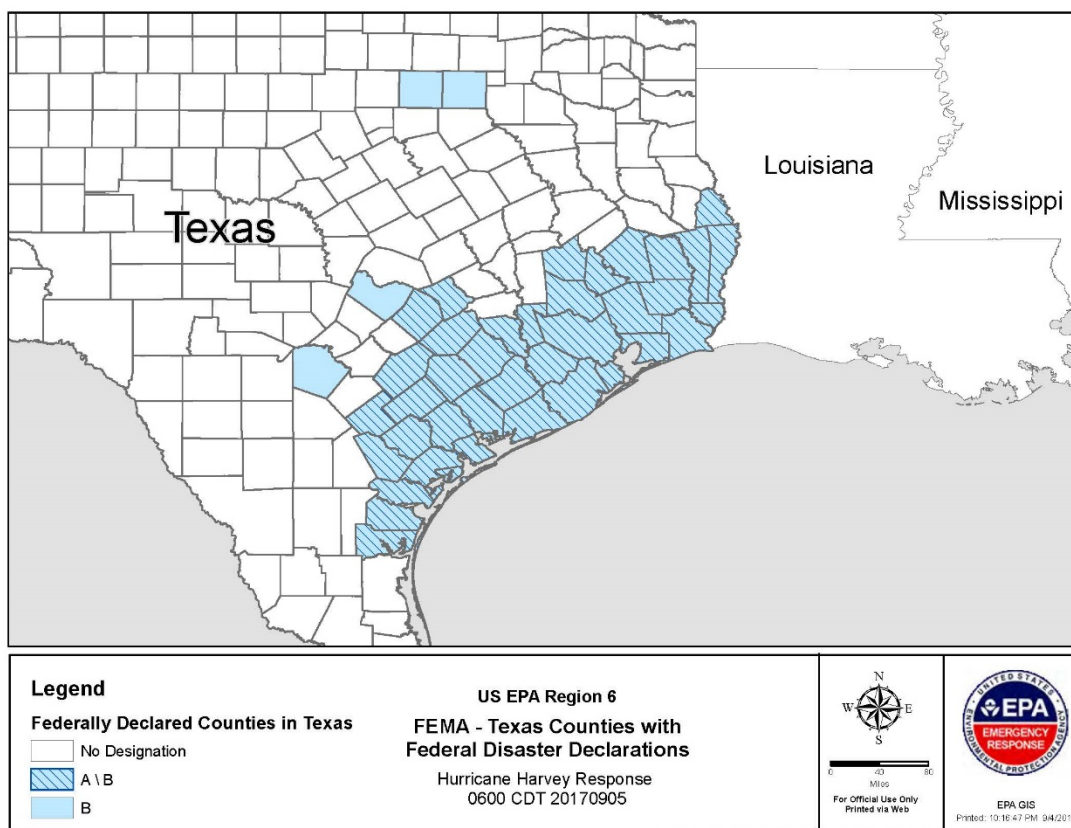


## SUPERFUND NPL SITES (Continued)

Superfund Sites within Federally Declared Counties					9/5/2017
Hurricane Harvey Rapid Response Assessment	Phase 1	Phase 2		Phase 3	All Phases Completed
	Rapid Response Assessment	Site Inspection Needed	Inspected	Additional Response Action	
TEXAS					
SITE NAME					
ALCOA (Point Comfort) / LAVACA BAY	8/29/17	No			8/29/2017
BAILEY WASTE DISPOSAL	9/1/17	Yes			
BRINE SERVICE CO.	8/30/17	Yes	8/30/17	No	8/30/2017
BRIO REFINING INC.	9/1/17	No			9/1/17
CONROE CREOSOTING COMPANY	9/1/17	No			9/1/17
CRYSTAL CHEMICAL CO.	8/30/17	No			8/30/17
DIXIE OIL PROCESSORS INC.	9/1/17	No			9/1/17
FALCON REFINERY	8/30/17	Yes	8/30/17	No	8/30/2017
FRENCH, LTD.	9/1/17	Yes	9/4/17	No	9/4/2017
GENEVA INDUSTRIES / FUHRMANN ENERGY	9/1/17	Yes	9/3/17	No	9/3/2017
GULFCO MARINE MAINTENANCE	9/1/17	Yes	9/3/17	No	9/3/2017
HARRIS (FARLEY STREET)	9/1/17	No			9/1/17
HART CREOSOTING	9/1/17	No			9/1/17
HIGHLANDS ACID PIT	9/1/17	Yes	9/4/17	No	9/4/2017
JASPER CREOSOTING	9/1/17	No			9/1/17
JONES ROAD GROUNDWATER PLUME	8/29/17	No			08/29/17
MALONE SERVICES COMPANY	9/1/17	Yes	9/4/17	No	9/4/2017
MANY DIVERSIFIED INTERESTS, INC	9/1/17	No			9/1/17
MOTCO, INC.	8/31/17	No			8/31/2017
NORTH CAVALCADE STREET	8/29/17	No			08/29/17
PALMER BARGE LINE	9/1/17	No			9/1/17
PATRICK BAYOU	9/1/17	Yes	9/4/17	No	9/4/2017
PETRO-CHEMICAL SYSTEMS, INC. (Turtle Bayou)	9/1/17	Yes	9/4/17	No	9/4/2017
SAN JACINTO RIVER WASTE PITS	9/1/17	Yes	9/3/17	Yes	
SHERIDAN DISPOSAL	9/3/17	No			9/3/2017
SIKES DISPOSAL PITS	8/29/17	No			08/29/17
SOL LYNN / INDUSTRIAL TRANSFORMERS	8/29/17	No			08/29/17
SOUTH CAVALCADE STREET	8/29/17	No			08/29/17
STAR LAKE CANAL	8/30/17	No			8/30/2017
STATE MARINE OF PORT ARTHUR	9/1/17	No			9/1/17
TEX-TIN CORP.	9/1/17	No			9/1/17
TRIANGLE CHEMICAL COMPANY	9/1/17	Yes			
UNITED CREOSOTING CO.	9/1/17	No			9/1/17
US OIL RECOVERY	9/1/17	Yes	9/4/17	Yes	
LOUISIANA					
AMERICAN CREOSOTE DERIDDER	09/01/17	No			9/1/17
D.L. MUD, INC.	08/29/17	No			08/29/17
EV-ROD TREATING/EVANGELINE REFINING COMPANY	09/01/17	No			9/1/2017
GULF COAST VACUUM SERVICES	08/29/17	No			08/29/17
GULF STATE UTILITIES (North Ryan Street)	08/31/17	No			8/31/2017
MALLARD BAY LANDING BULK PLANT	08/29/17	No			08/29/17
PAB OIL & CHEMICAL SERVICE	08/29/17	No			08/29/17
SBA SHIPYARD	09/01/17	No			9/1/17
RUSTON FOUNDRY	09/03/17	No			9/3/17

Superfund Sites within Federally Declared Counties					9/5/2017
Hurricane Harvey Rapid Response Assessment	Phase 1	Phase 2		Phase 3	All Phases Completed
	Rapid Response Assessment	Site Inspection Needed	Inspected	Additional Response Action	
STATUS SUMMARY					
Rapid Response Assessment Completed	43				
Sites with no further action	39				
Sites in Phase 2	4				

## FEMA – TEXAS COUNTIES WITH DISASTER DECLARATIONS



## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, September 05, 2017 1:40 PM  
**To:** Stenger, Wren  
**Cc:** Donaldson, Guy; Price, Lisa  
**Subject:** RE: Message from "RNP002673A39310"

I spoke with TSDHS (formerly TDH). They DO NOT monitor ambient air for air pollutants except asbestos. Ambient air monitoring in Texas is conducted by TCEQ or its local air agencies (such as the City of Houston).

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Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

---

**From:** Stenger, Wren  
**Sent:** Tuesday, September 05, 2017 11:36 AM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Subject:** FW: Message from "RNP002673A39310"

Article discussed this AM. FYI

---

**From:** Seager, Cheryl  
**Sent:** Tuesday, September 05, 2017 10:00 AM  
**To:** Stenger, Wren <[stenger.wren@epa.gov](mailto:stenger.wren@epa.gov)>; Price, Lisa <[Price.Lisa@epa.gov](mailto:Price.Lisa@epa.gov)>  
**Subject:** Fwd: Message from "RNP002673A39310"

Sent from my iPhone

Begin forwarded message:

**From:** "Seager, Cheryl" <[Seager.Cheryl@epa.gov](mailto:Seager.Cheryl@epa.gov)>  
**Date:** September 5, 2017 at 8:28:43 AM CDT  
**To:** "[ramiro.garcia@tceq.texas.gov](mailto:ramiro.garcia@tceq.texas.gov)" <[ramiro.garcia@tceq.texas.gov](mailto:ramiro.garcia@tceq.texas.gov)>, "[parker.wilson@valero.com](mailto:parker.wilson@valero.com)" <[parker.wilson@valero.com](mailto:parker.wilson@valero.com)>  
**Subject:** FW: Message from "RNP002673A39310"

Article

-----Original Message-----

From: [9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov) [[mailto:9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov)]  
Sent: Tuesday, September 05, 2017 8:35 AM  
To: Seager, Cheryl <[Seager.Cheryl@epa.gov](mailto:Seager.Cheryl@epa.gov)>  
Subject: Message from "RNP002673A39310"

This E-mail was sent from "RNP002673A39310" (MP C3003).

Scan Date: 09.05.2017 08:34:32 (-0500)  
Queries to: [9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov)

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, September 05, 2017 1:47 PM  
**To:** Madden, Joshua  
**Subject:** RE: Houston Air Toxics Stations

Thanks, Josh.

Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
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Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

---

**From:** Madden, Joshua  
**Sent:** Tuesday, September 05, 2017 1:46 PM  
**To:** Verhalen, Frances <verhalen.frances@epa.gov>  
**Subject:** Houston Air Toxics Stations

Fran, I have been going through TCEQ's website for air toxics and checking on their data for Deer park and Clinton. Both sites started posting data again beginning on Sept. 01, 2017. Neither site is showing any values of concern to human health. I spoke with Mike Honeycutt at TCEQ today and he confirmed that they have not seen any elevated levels that would cause a human health concern. He said that as more industries are coming online, they are closely monitoring. Let me know if you need anything else.

Joshua Madden  
Life Scientist  
Air Monitoring & Grants Section (6MM-AM)  
USEPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733  
(p) 214-665-7151

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, September 05, 2017 2:33 PM  
**To:** Stenger, Wren  
**Cc:** Donaldson, Guy; Price, Lisa  
**Subject:** RE: Message from "RNP002673A39310"

Just spoke with Corey Chism, TCEQ. He reported that a company called Entanglement Technologies (thought to be hired by EDF) was observed near the Valero Refinery numerous times and appeared to be collecting ambient air samples. He had no specific information about their result.

Corey did say that Valero had handheld VOC monitors at their fenceline and reported 17ppm total VOCs. This sample was not speciated so we do not know what was in it. When the sampler moved to a new spot and took another sample, the total VOC concentrations reduced, indicating that the VOC concentrations were not sustained at a high level.

Fran

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## Verhalen, Frances

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**Cc:** Donaldson, Guy; Price, Lisa  
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**Cc:** Donaldson, Guy <[Donaldson.Guy@epa.gov](mailto:Donaldson.Guy@epa.gov)>; Price, Lisa <[Price.Lisa@epa.gov](mailto:Price.Lisa@epa.gov)>  
**Subject:** RE: Message from "RNP002673A39310"

I wonder if the Houston Health Department brought in a contractor in a van???

---

**From:** Verhalen, Frances  
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## Verhalen, Frances

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**To:** Verhalen, Frances  
**Cc:** Donaldson, Guy; Price, Lisa  
**Subject:** RE: Message from "RNP002673A39310"

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**Cc:** Donaldson, Guy <Donaldson.Guy@epa.gov>; Price, Lisa <Price.Lisa@epa.gov>  
**Subject:** RE: Message from "RNP002673A39310"

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Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
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Dallas, TX 75202  
214-665-2172  
[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)

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**Sent:** Tuesday, September 05, 2017 2:49 PM  
**To:** Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)>  
**Cc:** Donaldson, Guy <[Donaldson.Guy@epa.gov](mailto:Donaldson.Guy@epa.gov)>; Price, Lisa <[Price.Lisa@epa.gov](mailto:Price.Lisa@epa.gov)>  
**Subject:** RE: Message from "RNP002673A39310"

I wonder if the Houston Health Department brought in a contractor in a van???

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**Sent:** Tuesday, September 05, 2017 11:36 AM  
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**Subject:** FW: Message from "RNP002673A39310"

Article discussed this AM. FYI

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Sent from my iPhone

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**Date:** September 5, 2017 at 8:28:43 AM CDT  
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Article

-----Original Message-----

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This E-mail was sent from "RNP002673A39310" (MP C3003).

Scan Date: 09.05.2017 08:34:32 (-0500)  
Queries to: [9\\_096\\_Ricoh@epa.gov](mailto:9_096_Ricoh@epa.gov)

## Verhalen, Frances

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**From:** Stenger, Wren  
**Sent:** Tuesday, September 05, 2017 3:14 PM  
**To:** Verhalen, Frances  
**Cc:** Donaldson, Guy; Price, Lisa  
**Subject:** RE: Message from "RNP002673A39310"

Good information. I will pass on to Cheryl. You can stand down. Thanks!

---

**From:** Verhalen, Frances  
**Sent:** Tuesday, September 05, 2017 2:33 PM  
**To:** Stenger, Wren <stenger.wren@epa.gov>  
**Cc:** Donaldson, Guy <Donaldson.Guy@epa.gov>; Price, Lisa <Price.Lisa@epa.gov>  
**Subject:** RE: Message from "RNP002673A39310"

Just spoke with Corey Chism, TCEQ. He reported that a company called Entanglement Technologies (thought to be hired by EDF) was observed near the Valero Refinery numerous times and appeared to be collecting ambient air samples. He had no specific information about their result.

Corey did say that Valero had handheld VOC monitors at their fenceline and reported 17ppm total VOCs. This sample was not speciated so we do not know what was in it. When the sampler moved to a new spot and took another sample, the total VOC concentrations reduced, indicating that the VOC concentrations were not sustained at a high level.

Fran

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**From:** Gray, David  
**Sent:** Wednesday, September 06, 2017 6:57 PM  
**Subject:** Harvey Response Update

Working together, the U.S. Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ) continue to coordinate with local, state and federal officials to address the human health and environmental impacts of Hurricane Harvey and its aftermath, especially the water systems in the affected areas. TCEQ has 500 people assisting in response to this natural disaster and EPA has 185.

Sam and I want to thank everyone for helping with this effort!

EPA has begun mobilizing Community Liaisons to the designated disaster counties for Hurricane Harvey. The liaisons will assist the county emergency operation centers in disseminating pertinent information on post flood hazards to municipalities, school districts, and citizens. EPA has now been deployed to the FEMA JFO Joint Information Center in Austin and additional EPA response personnel are being assigned to Beaumont/Port Arthur. This area was previously inaccessible due to lack of facilities. EPA has begun coordination with environmental justice advocates from Texas and Louisiana to provide an update on the impacted areas. EPA has been closely coordinating with the U.S. Coast Guard on a large oil spill in the Houston area, and with city and county officials on a benzene plume identified near the Manchester neighborhood.

**Drinking Water:** To date, about 2,800 drinking water systems are potentially affected by Harvey have been contacted. Of those: 1,920 systems are fully operational, 168 have boil-water notices, and 50 are shut down. Both EPA and the TCEQ are contacting remaining systems to gather updated information of their status. EPA and the TCEQ are

working closely with the Texas National Guard, including the 6th Civil Support Team (supporting TCEQ in Corpus Christi), Arkansas National Guard, 61st Civil Support Team (supporting TCEQ in Houston), and the Texas State Guard Engineering Group, and other local and state agencies to continuously monitor water systems. Assistance teams are in the field working directly with system operators to expedite getting systems back to operational status.

**Waste Water and Sewage:** Currently, 903 of approximately 1,219 wastewater treatment plants are fully operational and 34 are inoperable in the affected counties. The agencies are aware that releases of wastewater from sanitary sewers are occurring, due to the historic flooding and are actively working to monitor facilities that have reported spills, conduct outreach and provide technical guidance to all other wastewater facilities in flood-impacted areas. EPA and TCEQ are working closely with the Texas National Guard, including the 6th Civil Support Team (supporting TCEQ in Corpus Christi), Arkansas National Guard, 61st Civil Support Team (supporting TCEQ in Houston), and the Texas State Guard Engineering Group, and other local and state agencies to continuously monitor wastewater systems. Assistance teams will be deployed to work directly with system operators to expedite getting systems back to operational status.

**Flood Water:** Water quality sampling will be focused on industrial facilities and hazardous waste sites. Floodwaters contain many hazards, including bacteria and other contaminants. Precautions should be taken by anyone involved in cleanup activities or any others who may be exposed to flood waters. These precautions include heeding all warnings from local and state authorities regarding safety advisories. In addition to the drowning hazards of wading, swimming, or driving in swift floodwaters, these waters can carry large objects that are not always readily visible that can cause injuries to those in the water. Other

potential hazards include downed power lines and possible injuries inflicted by animals displaced by the floodwaters.

**Critical Water Infrastructure:** The agencies are continuing to work closely with dams. The larger dams are full in many cases and may be releasing water; the structures are secure at this time. There are 340 high- and significant-hazard dams in the impacted areas, and TCEQ has been able to make contact with 200 of these dam owners. Of these 200, only five dams have been damaged or have failed. We have also been notified that three low-hazard dams have damage. TCEQ is continuing to contact dams to get status updates.

**Superfund Sites:** EPA and TCEQ continue to get updates about the status of specific sites from the parties responsible for ongoing cleanup of the sites. So far, TCEQ staff have assessed 12 of the 17 State Superfund sites in the affected areas. TCEQ anticipates completing the remaining 5 assessments by the end of the week depending on accessibility of those remaining sites.

EPA completed site assessments at 13 Superfund sites that have been flooded and/or experience possible damage to the storm. Of these sites, two (San Jacinto and U.S. Oil Recovery) require additional assessment efforts. Assessments of these sites will take several days to complete. The San Jacinto Waste Pits site has a temporary armored cap designed to prevent migration of hazardous material; some areas that rock been displaced and liner is exposed. The potential responsible party has mobilized heavy equipment and is placing rock on different places on the armored cap to repair the defensive surface. The liner is in place and functional so we don't have any indication that the underlying waste materials have been exposed. If we find a breach in the exposed liner, we direct the responsible party to collect samples to determine if any materials have been released. Crews continue to surveying portions of

the cap that are submerged and the EPA dive teams will survey the cap underwater when conditions allow. EPA is making plans for longer-term assessments at 41 Superfund sites in the impacted areas as the projects return to their normal remedial cleanups.

**Air Quality Monitoring:** One of the many preparations for Hurricane Harvey included EPA, TCEQ, and other monitoring entities temporarily shutting down several air monitoring stations from the greater Houston, Corpus Christi, and Beaumont areas. Since then, state and local authorities have been working to get the systems up and running again. As of Tuesday September 5, TCEQ air monitoring network is 100 percent operational in Corpus Christi, 88 percent in Houston, and 71 percent in Beaumont. The network is expected to be fully operational again by next week. Of the available air monitoring data collected from Aug. 24-Sept. 2, all measured concentrations were well below levels of health concern. Monitors are showing that air quality at this time is not concerning, and residents should not be concerned about air quality issues related to the effects of the storm.

An assessment by EPA of the Valero Refinery on Monday, September 5, 2017, confirmed that a tank at the facility did have a leak which occurred on August 26, 2017 from the Hurricane Harvey storm and flooding. EPA also confirmed Valero had taken action to respond to and repair the leak. Based on current site conditions including weather, repair actions by Valero, and air monitoring results, EPA's assessment could not confirm the tank was the source of the air release that led to complaints in the area immediately after the storm. EPA's air monitoring performed onsite and around the facility on September 5 does not indicate levels of concern for the community. EPA will continue air monitoring for additional sources in the area.

**Fires at Arkema Facility in Crosby:** The TCEQ has an open investigation into the Arkema incident that will include an evaluation of any impacts

due to the fires at the site. Additionally, after the final notifications are received, the TCEQ will evaluate the reported emissions events to determine compliance with applicable rules, permit provisions, and notification and reporting requirements. The TCEQ and Harris County Pollution Control are coordinating post-event monitoring, sampling, and complaint response activities. The U.S. Chemical Safety Board has initiated an investigation, and law enforcement continues to limit access to the Arkema plant in Crosby. For more information regarding Arkema, please visit <https://www.tceq.texas.gov/news/statement/statement-on-arkema-investigation>

**Refineries/Fuel Waivers:** In addition to gasoline waivers for 38 states and D.C. and diesel waivers for Texas, EPA signed three No Action Assurance letters on Sept. 1 to help address fuel shortages. NAA will help expedite the distribution of existing gasoline supplies to both Texas and Louisiana, while the refineries work to re-start and resume normal operations. The waivers and NAA letters are effective until Sept. 15 and should allow for the distribution in Texas of 10 million or more gallons of fuel to consumers. TCEQ is working with EPA to consider an extension to the gasoline waivers through October 1st.

## Verhalen, Frances

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**From:** R6HarveyREOC\_Manager  
**Sent:** Friday, September 08, 2017 9:30 AM  
**To:** Verhalen, Frances  
**Cc:** R6HarveyREOC  
**Subject:** Fw: ASPECT Resources

Fran - ASPECT flew Valero already, did anyone get you a copy of the report?

Bryant

---

**From:** R6HarveySITL  
**Sent:** Thursday, September 7, 2017 4:26 PM  
**To:** R6HarveyREOC\_Manager  
**Subject:** Fw: ASPECT Resources

---

**From:** Verhalen, Frances  
**Sent:** Thursday, September 7, 2017 4:18 PM  
**To:** R6HarveyREOC; R6HarveySITL  
**Cc:** Kudarauskas, Paul  
**Subject:** ASPECT Resources

Paul and I spoke with Richard (Corey) Chism, TCEQ (512.239.0539) regarding TCEQ's request for assistance using the ASPECT plane. TCEQ requested assistance to monitor air at those areas where tanks had reportedly leaked chemicals into the environment. The areas that Corey requested monitoring were the Manchester Neighborhood in Houston, near Mont Belvieu, and around Beaumont. Separate emails detail the specific locations that TCEQ requested a fly-over using the ASPECT plane.

Corey requested one pass to see if there were noticeable emissions at elevated concentrations. If there were elevated concentrations, then additional passes may be requested. He is planning on sending inspectors to each location, as prioritized by emissions information and with any available analytical data, such as what the ASPECT can provide.

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## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Friday, September 08, 2017 9:34 AM  
**To:** R6HarveyREOC\_Manager  
**Subject:** RE: ASPECT Resources

Not yet. Please send the information for future discussions.

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## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Friday, September 08, 2017 9:36 AM  
**To:** Sather, Mark; Stenger, Wren  
**Subject:** RE: Region 6 8-hour ozone exceedance day report (through 9/7)

Wren, Mark has re-verified that these are the readings that TCEQ posted to their website.

For the days exceeding the NAAQS standard for ozone, TCEQ had issued ozone warning days. In addition, the precursor chemicals were present and wind speed was extremely low.

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The TCEQ web site

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What is source of Houston data for these days

Wren Stenger, Director  
Multimedia Division

On Sep 8, 2017, at 7:24 AM, Sather, Mark <[sather.mark@epa.gov](mailto:sather.mark@epa.gov)> wrote:

For this week there were high ozone concentrations in Texas and Southern New Mexico. There were four 8-hour ozone exceedance days in Houston (one red and three orange), two orange exceedance days in DFW, and one orange exceedance day apiece in Beaumont, Austin, El Paso, and Southern Dona Ana County, NM. Let me know of any questions.

Mark

Mark Sather  
Environmental Scientist  
U.S. EPA Region 6  
Air Monitoring & Grants Section (6MM-AM)

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(214) 665-8353  
[sather.mark@epa.gov](mailto:sather.mark@epa.gov)  
<8ouupdate17.xlsx>  
<r6areas70.xlsx>

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**Sent:** Friday, September 08, 2017 9:37 AM  
**To:** Sather, Mark  
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Mark, please send Wren which monitors in Houston exceeded at what level on which day for this past reporting period.

Thank you.

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Can you be specific? Data from near by AA monitors?

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(214) 665-8353  
[sather.mark@epa.gov](mailto:sather.mark@epa.gov)

<8ouupdate17.xlsx>

<r6areas70.xlsx>

## Verhalen, Frances

---

**From:** Verhalen, Frances  
**Sent:** Friday, September 08, 2017 2:24 PM  
**To:** Richard Chism  
**Subject:** Letter re; outdoor burning

Earlier this afternoon, Sam Coleman and Richard Hyde discussed the letter and made decisions. I am not planning on sending anything until the letter goes final.

Frances Verhalen, P.E., Chief  
Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
verhalen.frances@epa.gov

## Verhalen, Frances

---

**From:** Richard Chism <Richard.Chism@tceq.texas.gov>  
**Sent:** Friday, September 08, 2017 2:29 PM  
**To:** Verhalen, Frances  
**Subject:** Re: Letter re; outdoor burning

Ok, thanks. I confirmed that the letter should go to Ramiro Garcia and Cynthia Gandee instead of the recipients you mentioned. You can certainly cc me and the others.

Sent from my iPhone

On Sep 8, 2017, at 2:24 PM, Verhalen, Frances <[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)> wrote:

Earlier this afternoon, Sam Coleman and Richard Hyde discussed the letter and made decisions. I am not planning on sending anything until the letter goes final.

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Air Monitoring/Grants Section  
US Environmental Protection Agency  
1445 Ross Avenue (MC 6MM-AM)  
Dallas, TX 75202  
214-665-2172  
[verhalen.frances@epa.gov](mailto:verhalen.frances@epa.gov)

## Verhalen, Frances

---

**From:** Stenger, Wren  
**Sent:** Saturday, September 09, 2017 10:24 AM  
**To:** Coleman, Sam; Gray, David; Edlund, Carl; Carroll, Craig; Peterson, Mary  
**Cc:** Harrison, Ben; Spalding, Susan; Price, Lisa; Vargo, Steve; Shaw, Betsy; Wayland, Richard; Verhalen, Frances; Stenger, Wren  
**Subject:** Tex Burn Approval LETTER FINAL SIGNED  
**Attachments:** TCEQ Burn approval LETTER FINAL signed Sept 9 2017.pdf

I will send to Ramiro in a separate email.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

September 9, 2017

Mr. Ramiro Garcia  
Deputy Director  
Office of Compliance and Enforcement  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711

Re: Outdoor Burning of Debris from Hurricane Harvey Cleanup Efforts

Dear Mr. Garcia:

The EPA is aware of the tremendous damage that Hurricane Harvey caused in the State of Texas. We are also cognizant of the extraordinary circumstances you face in your clean-up and recovery efforts, such as removing large amounts of debris.

We understand that the State has provided waivers to certain air quality rules to alleviate some of the regulatory burdens it faces in its recovery efforts. The Texas Commission on Environmental Quality (TCEQ) Executive Director has the authority to waive certain requirements under 30 Texas Administrative Code 111.215 so as to allow open burning of woody debris from Hurricane Harvey aftermath. As such, the State can approve open burning of debris, consistent with guidance provided by the TCEQ. The EPA has reviewed the emergency hurricane debris management guidance on the TCEQ website and concurs with its use.

The EPA will continue to work with and assist the TCEQ to manage the cleanup efforts from Hurricane Harvey. If you have questions, please contact me or Frances Verhalen of my staff at (214) 665-2172.

Sincerely,

A handwritten signature in blue ink, reading "Wren Stenger", is positioned above the typed name.

Wren Stenger  
Director  
Multimedia Division

cc: Cynthia Gandee  
Texas Commission on  
Environmental Quality



## Verhalen, Frances

---

**From:** Stenger, Wren  
**Sent:** Saturday, September 09, 2017 10:26 AM  
**To:** Verhalen, Frances; Vargo, Steve  
**Cc:** Harrison, Ben  
**Subject:** FW: Tex Burn Approval  
**Attachments:** TCEQ Burn approval LETTER FINAL signed Sept 9 2017.pdf

For the record that this was sent to Texas. Fran, I will get you the original paper letter.

---

**From:** Stenger, Wren  
**Sent:** Saturday, September 09, 2017 10:25 AM  
**To:** 'Ramiro Garcia' <ramiro.garcia@tceq.texas.gov>  
**Subject:** Tex Burn Approval

Ramiro, if you have any questions, please contact me or Fran Verhanlen. Sam and Richard discussed extensively yesterday.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

September 9, 2017

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Sincerely,

A handwritten signature in blue ink, reading "Wren Stenger", is positioned above the typed name.

Wren Stenger  
Director  
Multimedia Division

cc: Cynthia Gandee  
Texas Commission on  
Environmental Quality



# Outdoor Burning in Texas

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*Field Operations*

Texas Commission on Environmental Quality



## **Texas Commission on Environmental Quality**

**Bryan W. Shaw, Ph.D., P.E., *Chairman***

**Toby Baker, *Commissioner***

**Zak Covar, *Commissioner***

**Richard A. Hyde, P.E., *Executive Director***

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**[tceq.texas.gov/publications](http://tceq.texas.gov/publications)**

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# Outdoor Burning in Texas

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*Field Operations*

Texas  
Commission on  
Environmental  
Quality





# Contents

## Introduction 5

Limitations of This Guide 5

## The Outdoor Burning Rule Explained 5

Summary of the Rule 5

Exceptions to the Prohibition 6

*Firefighter Training* 6

*Fires for Recreation, Ceremonies, Cooking, or Warmth* 7

*Fires for Disposal or Land Clearing* 7

*Prescribed Burns* 10

*Pipeline Breaks and Oil Spills* 10

*Other Situations* 11

General Requirements for Burning 11

Practical Alternatives to Burning 12

## Related TCEQ Publications 12

## Appendix A: Outdoor Burning— When Should You Notify the TCEQ? 13

## Appendix B: TCEQ Areas and Regional Offices 14

## Appendix C: Outdoor Burning Rule 16

## Appendix D: Background 20

## Appendix E: Arson Resources and Contact Information 22



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## Introduction

**T**his guide helps interpret the revised Outdoor Burning Rule, Title 30, Texas Administrative Code, Sections 111.201–221,<sup>1</sup> for the general public, the regulated community, and responsible state and local officials.

This document covers all aspects of the outdoor burning rule, including:

- exceptions that allow outdoor burning
- general requirements for allowing outdoor burning
- notification requirements for allowable outdoor burning

At the end of various sections, common questions relating to the material in the section are answered.

State and local officials may find Appendixes C and D to be particularly useful. They contain a copy of the rule itself and background information for each of its sections.

**This guide is not a substitute for the actual rule.** A current copy of the rule can be obtained from the TCEQ by calling 512-239-0028, or online at <[www.tceq.texas.gov/rules](http://www.tceq.texas.gov/rules)>.

## Limitations of This Guide

This document does not include requirements of other government agencies. Local ordinances and governmental entities may restrict when, where, how, and if individuals and organizations can conduct outdoor burning.

Some municipalities have enacted local ordinances that prohibit or restrict outdoor fires within their corporate limits. Residents should always check with municipal officials about possible limitations on outdoor burning so they do not unintentionally violate an existing ordinance.

During extreme fire danger, governmental units may ban outdoor burning to help prevent possibly disastrous wildfires. A county judge and county commissioners' court may issue a ban on outdoor burning that is applicable to unincorporated portions of the county.

In addition, Texas criminal statutes specify penalties that pertain to escaped control fires and wildland fires that were deliberately set. Persons responsible for escaped control or arson wildfires may also be faced with civil suits for damages caused by these fires.

<sup>1</sup> In this document, "30 TAC 111" is short for "Title 30, Texas Administrative Code, Chapter 111."

Numerous authorities, including the National Weather Service and the Texas A&M Forest Service, may issue advisories, watches, or warnings when weather and fuel conditions increase the risk of escaped fires or the severity of wildfires. Public cooperation during the dangerous wildfire conditions is essential to prevent needless wildfires and the losses they may cause.

## The Outdoor Burning Rule Explained

The current version of the Outdoor Burning Rule is the result of a concerted effort to produce a streamlined, unambiguous rule that can be applied consistently and fairly throughout Texas. Its purpose is to protect the environment, promote public health and safety, and avoid nuisance conditions through the sensible regulation of outdoor burning.

## Summary of the Rule

The Outdoor Burning Rule first prohibits outdoor burning anywhere in Texas, and then allows exceptions for specific situations in which burning is necessary or does not pose a threat to the environment. The rule also prescribes conditions that must be met to protect the environment and avoid other adverse impacts when burning is allowed. If burning seems necessary, but the situation does not fit an exception stated in the rule, then it is possible to request a special authorization to conduct burning from the TCEQ.

### *How do I obtain a burning permit from the TCEQ?*

The TCEQ does not issue burning permits. Outdoor burning in general is prohibited in Texas, although the Outdoor Burning Rule (Appendix C) does allow certain exceptions. If your situation fits all requirements for one of the exceptions described in the rule, you may conduct outdoor burning, as long as you comply with all the conditions. Depending on the circumstances, you may also need authorization from the appropriate regional office before you burn. Remember to check local ordinances or other regulations about burning.

*It looks like I can get the TCEQ's authorization to burn, but my neighbors may complain. Do I have to worry about what they think?*

Yes. In addition to common courtesy, the Outdoor Burning Rule requires that certain kinds of burning be conducted downwind of, or at least 300 feet from, any structure containing sensitive receptors (for example, a residence, business, barn, or greenhouse; see box, page 8) located on adjacent properties unless written approval is obtained beforehand from the owner or occupant—the one who will suffer adverse effects—of the adjacent or downwind property. Also, the burning must not cause a nuisance or traffic hazard.

*The rule authorizes (or the TCEQ has authorized) my outdoor burning. Before I actually set the fire, do I have to notify the TCEQ?*

It depends. For certain types of burning, the rule requires you to notify the appropriate TCEQ regional office. For others, you are not required to notify the TCEQ. But, before you strike that match, remember that you may have to contact other agencies—or even your neighbors—as well as the TCEQ. See Appendix A for the notification requirements for the various kinds of burning covered under the rule. Up-to-date information regarding weather conditions can be obtained online through a number of websites. This information should be referenced before conducting outdoor burning in order to determine which way (and how fast) the wind is blowing, whether winds are expected to shift, whether your area is under a temperature inversion, and whether high ozone levels are forecast. Ozone level information is available on TCEQ's Texas Air Quality Forecast page: <[www.tceq.texas.gov/goto/airtoday](http://www.tceq.texas.gov/goto/airtoday)>.

*How do I report someone who is illegally burning outdoors?*

Report the burning to the local air pollution-control office, or the nearest TCEQ regional office. The TCEQ's Environmental Complaint Hotline is 888-777-3186. Complaints can also be submitted by e-mail at <[complaint@tceq.texas.gov](mailto:complaint@tceq.texas.gov)> or using the online form available at <[www.tceq.texas.gov/complaints](http://www.tceq.texas.gov/complaints)>.

## Exceptions to the Prohibition

The standard exceptions, explained below, cover the most common situations in which burning is an acceptable practice. In most of these instances, the burning must follow the

general requirements outlined later in this document. It may be necessary to notify the TCEQ, local governmental agencies, and neighbors before conducting burning under one of these exceptions. See Appendix A for details on notification requirements in specific situations. There may be local ordinances or county burn bans that regulate burning; if so, the requirements and restrictions of those ordinances must also be met.

## Firefighter Training

Organizations that train firefighters may obtain authorization to conduct outdoor burning for such training, including training in the operation of fire extinguishers. To obtain an authorization, the organization responsible for the training must send a written request to the local air pollution-control agency under contract with the TCEQ, or, if there is no such agency, the appropriate TCEQ regional office. For a list of regional offices, see Appendix B.

If training occurs regularly at a dedicated facility, it may be possible to inform the regional office of all such training events with one annual written notification. If a dedicated training facility conducts training regularly but less often than once a week, a telephone or fax notification will be necessary 24 hours in advance of each event.

Burning conducted to train firefighters does not have to conform to the general requirements for other forms of allowable outdoor burning, but it must not cause a nuisance or traffic hazard. The TCEQ may revoke its authorization if it is used in an attempt to avoid complying with other portions of the Outdoor Burning Rule.

*We want to conduct fire training for our volunteer fire department. Can we burn this abandoned house?*

The training of firefighters may be authorized as an exception to the prohibition on outdoor burning. Submit a written request on behalf of the VFD to the local air pollution-control agency, or, if there is no local agency, the TCEQ office for your region. The TCEQ may authorize such training orally or in writing; if it denies the request, your VFD will receive a notice of denial within 10 working days after the postmark date or the date of personal delivery of the request to the regional office. To ensure that the fire will not form or disperse toxic substances, the local air pollution-control agency or the reviewing TCEQ regional office may require that the building be stripped of many common construction materials—including electrical wiring, lead flashing, carpet, asbestos, and many others—before the fire is ignited.



Note that the burning of abandoned buildings by a fire department is not automatically considered fire training. There must be a specific benefit to the fire department. Simply preventing the spread of fire from an abandoned building to neighboring property is not considered training. Such burns constitute an attempt to circumvent the Outdoor Burning Rule and are prohibited.

### **Fires for Recreation, Ceremonies, Cooking, or Warmth**

Outdoor burning is allowed when used solely for recreational or ceremonial purposes, in the noncommercial preparation of food, or exclusively as a means of generating warmth in cold weather. In other words, campfires, bonfires, and cooking fires are allowed. Fires built under this exception may not contain electrical insulation, treated lumber (including paint, stain, varnish, clear coat, or any other kind of treatment), plastics, construction or demolition materials not made of wood, heavy oils, asphaltic materials, potentially explosive materials, chemical wastes, or items containing natural or synthetic rubber. The other general requirements on allowable outdoor burning do not apply to fires covered by this exception, but the burning must not cause a nuisance or traffic hazard.

#### *May I cook food on my charcoal grill in my backyard?*

Yes. Fires used in the noncommercial preparation of food are allowed.

#### *May I build a fire in my fireplace?*

Yes. Indoor fires are not regulated by the Outdoor Burning Rule. Domestic-use fireplaces are authorized under the TCEQ's de minimis rules in 30 TAC 116.119.

#### *Are campfires allowed inside the city limits?*

Fires used solely for recreation or ceremony are allowed by state law; however, local ordinance may prohibit this kind of burning. Make sure no oils, asphalt, synthetic rubber, or other materials that produce heavy smoke are in the fire: they could release toxic gases or cause a nuisance or traffic hazard.

### **Fires for Disposal or Land Clearing**

A broad exception for fires to dispose of waste or clear land covers seven more specific categories, described below. Residents of Montgomery County are subject to special restrictions (see below); these restrictions could be extended

to other areas of the state should growth in neighboring counties render them subject to the provisions of Texas Local Government Code 352.082.

**1. Domestic waste.** Domestic waste—in other words, household trash or rubbish—may be burned when the local governmental organization with jurisdiction over such matters does not collect trash and does not authorize a business or other service to do so. To qualify for this exception, the waste must come from a property that is designed to be a private residence and used exclusively as a private residence for no more than three families. The waste must also be burned on the property where it was produced. According to TCEQ rules [30 TAC 101.1(26)], domestic wastes include wastes that normally result from the function of life within a residence—for example, kitchen garbage, untreated lumber, cardboard boxes, packaging, clothing, grass, leaves, and branch trimmings. Such items as tires, construction debris, furniture, carpet, electrical wire, and appliances are not considered to be domestic waste and cannot be burned. Other conditions of the general requirements for outdoor burning do not apply to the burning of domestic waste, but the outdoor burn must not cause a nuisance or traffic hazard.

**2. Diseased animal carcasses.** These may be burned when burning is the most effective means of controlling the spread of disease. The general requirements for outdoor burning do not apply to this exception, but burning under this exception must not cause a nuisance or traffic hazard.

**3. Burning of animal remains by a veterinarian.** A veterinarian may burn animal remains and medical waste—not including sharps (e.g., needles)—associated with animals in his or her care on his or her property if the property is located outside the corporate boundaries of a municipality (or within such boundaries if annexed on or after September 1, 2003). This section prevails over any other law that authorizes a governmental authority to abate a public nuisance. (Texas Occupations Code 801.361.)

**4. On-site burning of waste plant growth.** Trees, brush, grass, leaves, branch trimmings, or other plant growth may be burned on the property on which the material grew in most attainment counties, as described below. In all cases, the plant growth must be burned by the property owner or any other person authorized by the owner.

- *All designated nonattainment counties and some attainment counties.* Burning of waste plant growth is allowed only if the material was generated as a result of right-of-way maintenance, land clearing, or maintenance along water canals, and no practical alternative to burning exists. “Practical alternative” is defined as ‘an economically, technologically, ecologically, and logistically viable

option.’ See Appendix D. Burning carried out under this exception must conform to all the general requirements for outdoor burning.

- **Most attainment counties.** Burning of waste plant growth is allowed regardless of the activity that generated the material. Practical alternatives need not be considered. Burning carried out under this exception must conform to some of the general requirements for outdoor burning, specifically the requirements in 30 TAC 111.219(3, 4, 6, 7) (see Appendix C). Such burning is also subject to local ordinances that prohibit burning within the corporate limits of a city or town. Some attainment counties are treated as nonattainment counties for the purposes of this exception. Specifically, any attainment county that contains any part of a municipality that extends into a bordering nonattainment county is treated as a nonattainment county for the purposes of this exception.

To determine if your county is an attainment or a nonattainment county for the purposes of this exception, call your regional TCEQ office. TCEQ regional-office phone numbers appear in Appendix B.

**5. Designated burn sites.** This exception allows rural homeowners to transport their yard waste to a designated site for consolidated burning, rather than having numerous smaller fires in the yards of rural neighborhoods. All burning at a designated site must be directly supervised by a fire-department employee. Designated burn sites must be located outside the corporate limits of a municipality and within a county that has a population of less than 50,000. The site must be designated by its owner; designation does not require registration with the agency. A site is designated by:

- posting all entrances to the site with a placard measuring at least 2 feet wide by 4 feet high bearing specific information as stated in 30 TAC 111.209(5)(A) (see Appendix C)—each placard must be clearly visible and legible at all times; and
- specifying residential properties for which the site has been designated, and maintaining a record of those specific residential properties. The record must contain a description of a platted subdivision, a list of all specific residential addresses, or both. This record must be made available within 48 hours of any request by any authority having jurisdiction.

Furthermore, the owner of the site is required to ensure that all activities at the site comply with this exception. The owner must:

- ensure that all waste burned at the site consists of trees, brush, grass, leaves, branch trimmings, or other plant

growth, and was generated at one of the specific residential properties for which the site is designated; and

- ensure that all burning at the site is directly supervised by a paid, on-duty fire department employee who is part of the fire protection personnel and is acting in the scope of his or her employment. The fire-department employee must notify the appropriate TCEQ regional office by phone or fax 24 hours in advance of each burn. The TCEQ will supply the employee with information on practical alternatives to burning.

**6. Crop residues.** When there is no practical alternative, crop residues may be burned as part of agricultural management. Burning carried out under this exception must conform to the general requirements for outdoor burning, and structures containing “sensitive receptors” (see box) must not be negatively affected by the burn. This exception does not apply to crop-residue burning covered by an administrative order.

“Sensitive receptors” include humans and livestock, as well as “sensitive live vegetation” such as nursery plants, mushrooms under cultivation, and plants raised for pharmaceutical production or used in lab experiments. For a complete definition, see 30 TAC 111.203(7) (see Appendix C).

**7. Brush, trees, etc., off-site.** A county or municipal government may request site and burn authorization in writing from the appropriate TCEQ regional office to burn accumulations of brush, trees, and other plant growth that cause a condition detrimental to public health and safety. The burn must occur at a site owned by the local government and will be authorized only if the TCEQ determines that there is no practical alternative. The frequency of such burns may not exceed once every two months, and they cannot be used in place of other sound brush-management practices. Burning conducted under this exception must conform to the general requirements for allowable outdoor burning. The burning may not occur at a municipal landfill without advance permission from the TCEQ.

**Special restrictions in Montgomery County.** Regardless of the seven exceptions given above, in unincorporated areas of Montgomery County it is a criminal offense, as well as a violation of agency rules, to burn household refuse on a lot smaller than five acres or located in a “neighborhood.” The terms “neighborhood” and “refuse” are defined in 30 TAC 111.203 (see Appendix C). Under Texas Local Government Code 352.082, this restriction could in the future also apply to certain planned communities if a county adjacent to the

one where such a community is located grows to 3.3 million or more in population.

*I live in a small rural town where most people have their trash picked up by a commercial trash-collection service. I can't afford to pay that money each month. May I burn my trash in a 55-gallon drum in my backyard?*

If there is no governmentally provided or authorized trash-collection service available to you, you may burn domestic waste on the property where it is produced, as long as outdoor burning is not prohibited by local rule or ordinance and does not create a nuisance or a traffic hazard.

*May I burn my old oil filters in a metal barrel on my property?*

No. Take oil filters to an authorized recycling site, along with your used oil. You may call 800-CLEAN-UP for more information on recycling.

*I want to burn boxes from my business. The TCEQ rules say that I may burn waste from my residence, but what about waste from my business?*

According to the Outdoor Burning Rule, you can't burn business waste. The exception that allows the burning of domestic waste applies only if the property is used exclusively as a private residence and the local governmental authority does not provide or authorize the collection of waste at the premises where the waste is generated. There is no such exception for businesses. You should look into the possibility of recycling your boxes and other business or commercial wastes such as pallets, cardboard, barrels, etc. or find ways that you or others could reuse them.

*We have a hard time disposing of scrap tires. Will the TCEQ let us burn them?*

No. The rule provides no exception for the disposal of tires through outdoor burning—or any other items that contain natural or synthetic rubber—because of the air pollution that would result. The TCEQ's Scrap Tire Program (512-239-2515, <[www.tceq.texas.gov/tires](http://www.tceq.texas.gov/tires)>) can give you more information regarding proper methods for tire disposal.

*What may be burned at municipal landfills?*

Routine burning is not allowed at municipal landfills.

*I am a licensed veterinarian. Do I need authorization to burn animals that died while in my care?*

Not if you are located outside the corporate boundaries of a municipality (or within those boundaries if annexed on or after September 1, 2003) and you burn the animal remains on property owned by you. You can also burn medical waste associated with the animal, with the exception of sharps (e.g., needles). For details, see section 801.361 of the Texas Occupations Code.

*May I burn trees that I have cut down in my backyard?*

There are a couple of exceptions to the prohibition on outdoor burning that may allow you to burn trees.

First, grass, leaves, and branch trimmings from residences are all considered "domestic waste." If your local government does not collect domestic waste and does not authorize a private collector to do so, you may burn material of this type. If such waste collection is available, then it cannot be burned under the domestic-waste exception.

Regardless of whether domestic-waste pickup is available, a separate exception may apply depending on your location. If you are in a county that does not contain any part of a city that extends into a nonattainment county, you may burn plant waste (not all domestic waste) on the property on which it was generated. For information regarding nonattainment counties visit <[www.tceq.texas.gov/airquality/sip](http://www.tceq.texas.gov/airquality/sip)>.

However, under both of these exceptions, the burning must not create a nuisance or traffic hazard, and you must comply with all applicable local rules or ordinances.

*I have some uncleared property inside the city limits that I would like to develop. Hauling the trees and brush off would not be practical because it is too expensive. May I dispose of the trees and brush by burning?*

It depends on the attainment status of the county in which you wish to burn. In designated nonattainment counties, and attainment counties that border nonattainment counties and contain any part of a city that extends into the nonattainment county, this type of burning does not meet the exception unless the municipal government has enacted ordinances that permit burning consistent with state law. You must consider alternatives such as chipping or trench burning. If there is no practical alternative, and the city has not enacted ordinances that permit burning, you may request

written permission from the TCEQ for authorization to burn, and you cannot commence with the burning until you receive such authorization. Such requests are evaluated on a case-by-case basis. Contact the appropriate TCEQ regional office for guidance.

In all other counties this burning meets the agency exception unless the municipal government has enacted ordinances that prohibit burning.

For information regarding nonattainment counties visit <[www.tceq.texas.gov/airquality/sip](http://www.tceq.texas.gov/airquality/sip)>.

*I am in the business of trimming people's trees and shrubs in town. I realize that the tree limbs and trimmings can't be burned in town, but I own some land outside of town. May I take it out there and burn it?*

No. The Outdoor Burning Rule allows the burning of land clearing materials only at the site of the land clearing.

*Why are sugar growers allowed to burn their cane fields?*

At the request of Rio Grande Valley Sugar Growers, Inc., the TCEQ conducted extended air-monitoring studies of the Texas sugarcane-growing area. The agency determined that no practical alternative to burning exists for this industry. The TCEQ then adopted an agreed order with the Rio Grande Valley Sugar Growers, Inc., that outlines conditions under which the sugarcane industry can conduct burning.

*The burning of corn stubble produces a great amount of smoke. Is this type of burning authorized?*

Yes. Burning for crop management is allowed if there is no practical alternative, if it is conducted under appropriate weather conditions and at appropriate times, and if it does not cause a nuisance or traffic hazard.

*There are tree limbs in an area of our community that pose a public safety risk. What are our options for solving this problem?*

Brush, trees, and other forms of plant growth that present a detriment to public health and safety may be burned by a county or municipal government at a site it owns upon receiving site and burn authorization from the TCEQ. Such burning can only be authorized when there is no practical alternative, and it may be done no more than once every two months. The local government has the burden of proving

that there is no practical alternative and that the growth poses a detriment to public health or safety. Burning to augment normal brush disposal cannot be a continual or a standard operating procedure and cannot be conducted at municipal landfills unless authorized in writing by the TCEQ.

*Is hay that has been used as bedding for animals considered crop residue?*

No. Hay used for this purpose will need to be properly disposed of by a method other than burning. Check with your local county officials or agricultural organizations. They may need this material for erosion control or other purposes.

## Prescribed Burns

This exception covers the use of fire to manage forests, rangeland, wildland and wildlife, coastal salt marsh in 14 counties, and for wildfire-hazard mitigation. All of these forms of burning are subject to the general requirements for allowable outdoor burning. Coastal salt-marsh burning also entails more specific notification requirements, which are stated in 30 TAC 111.211(2)(A) and (B).

*Who can I contact for technical information relating to prescribed burning?*

A good source is the Prescribed Burning Board of the Texas Department of Agriculture, which sets standards for prescribed burning; develops a comprehensive training curriculum for prescribed-burn managers and sets standards for their certification, recertification and training; establishes minimum education and professional requirements for instructors for the approved curriculum; and sets minimum insurance requirements for prescribed-burn managers.

For safety reasons, a prescribed-burn plan may call for burning at night. Such a plan requires special authorization and must consider the effects of a temperature inversion on smoke dispersal in order to protect public health.

## Pipeline Breaks and Oil Spills

An oil (or other hydrocarbon) spill or pipeline break may trigger a requirement to notify the appropriate TCEQ regional office. Once notified of the spill, the regional office staff will decide whether burning is necessary to protect the public welfare. If the TCEQ gives the company or person responsible for the spill permission to burn, the TCEQ may also require that company or person to take samples and monitor the site to determine and evaluate environmental impacts.



## Other Situations

If a situation may require outdoor burning but is not covered by the previously described exceptions, you may request permission to burn from the TCEQ regional office. Its staff, acting on behalf of the executive director, will consider whether there is a practical alternative, whether the burning will cause or contribute to a nuisance or traffic hazard, and whether the practice will violate any federal or state primary or secondary standard for ambient air quality. Such an authorization may require you to follow certain procedures to control or abate emissions. The authorization may be revoked at any time if the TCEQ determines that the outdoor burning is creating a nuisance, violating any provision of an applicable permit, causing a violation of any air quality standard, or not conforming to the conditions specified in the authorization.

*A bad storm knocked a lot of trees down in our community. May we burn the debris? May we haul it to the landfill and burn it?*

Regardless of whether the brush is to be burned on-site or at the landfill, this type of burning is not specifically authorized in the exceptions to the prohibition on outdoor burning. However, the TCEQ may authorize the disposal of storm debris if there are no practical alternatives. Such requests are evaluated on a case-by-case basis. Contact the appropriate TCEQ regional office for guidance.

*Why are housing subdivisions allowed to dig pits and burn their land-clearing materials within city limits?*

They are using a process called air-curtain incineration (trench burning), which is authorized under a permit by rule or standard permit. Companies that specialize in that business must obtain prior TCEQ approval, obtain a federal operating permit, and follow specific written operating procedures.

## General Requirements for Outdoor Burning

- If a proposed outdoor burn meets the conditions for an exception to the general prohibition of outdoor burning, additional requirements designed to protect public health, safety, and the environment may apply. They are designed to reduce the likelihood that the burning will create a nuisance, cause a hazard, or harm the environment. The specific requirements applicable to each type of allowable outdoor burn are identified in the

exceptions (see Appendix C). The party responsible for the burn remains liable for damages, injuries, or other consequences that may result from burning, even when it is carried out in compliance with these regulations.

- Notify the Texas A&M Forest Service before carrying out any prescribed or controlled burns that are intended for forest management.
- Burn only outside the corporate limits of a city or town, unless the incorporated city or town has an ordinance, consistent with the Texas Clean Air Act, Subchapter E, that permits burning.
- Commence or continue burning only when the wind direction and other weather conditions are such that the smoke and other pollutants will not present a hazard to any public road, landing strip, or navigable water (e.g., lake, river, stream, or bay) or have an adverse effect on any off-site structure containing “sensitive receptors” (e.g., a residence, business, farm building, or greenhouse; see box, page 8). Up to date information regarding weather conditions can be obtained online through a number of websites. This information should be referenced before conducting outdoor burning in order to determine the direction and speed of the wind, whether winds are expected to shift, whether your area is under a temperature inversion, and whether high ozone levels are forecast. Ozone level information is available on the TCEQ’s Texas Air Quality Forecast page: <[www.tceq.texas.gov/goto/airtoday](http://www.tceq.texas.gov/goto/airtoday)>.
- Post someone to flag traffic if at any time the burning causes or may tend to cause smoke to blow onto or across a road or highway.
- Keep fires downwind of, or at least 300 feet away from, any neighboring structure that contains sensitive receptors. This requirement may be waived only with the prior written approval of whoever owns or rents the adjacent property and either resides or conducts business there.
- Begin burning no earlier than one hour after sunrise. Cease burning the same day no later than one hour before sunset, and make sure that a responsible party is present while the burn is active and the fire is progressing. At the end of the burn, extinguish isolated residual fires or smoldering objects if the smoke they produce can be a nuisance or a traffic hazard. Do not start burning unless weather conditions are such that the smoke will dissipate (winds of at least 6 miles per hour; no temperature inversions) while still allowing the fire to be contained and controlled (winds no faster than 23 miles per hour).

- Do not burn any electrical insulation, treated lumber, plastics, non-wooden construction or demolition materials, heavy oils, asphaltic materials, potentially explosive materials, chemical wastes, or items that contain natural or synthetic rubber.

*My situation doesn't fit any of the exceptions given in the rule, but I still think that burning is the only practical alternative. What can I do?*

Submit a written request to the TCEQ regional office that serves the county where you wish to conduct outdoor burning. Acting on behalf of the executive director, regional personnel will review your request and determine whether a practical alternative is available. If they agree that none can be found, they will issue you a written authorization to burn that outlines specific conditions you must follow to control the emissions.

*We are burning in compliance with TCEQ regulations, but the local fire marshal objects. Is our compliance with state rules not enough?*

Your compliance with TCEQ regulations does not mean that other, stricter laws, regulations, or ordinances cannot be enforced by cities, counties, or other jurisdictions. You must comply with all such regulations (e.g., county burn bans) as well as the TCEQ rules.

## Practical Alternatives to Burning

The Outdoor Burning Rule defines a practical alternative as “an economically, technologically, ecologically, and logistically viable option.” The following methods can sometimes serve as practical alternatives to burning as a means to dispose of waste. With creative thinking and the help of the local TCEQ regional office, you may be able to develop ways to dispose of your waste other than burning it.

**Recycling.** Manually or mechanically separate salvageable metals from other material and sell them at a salvage yard.

**Composting.** Wastes from landscape maintenance can often be composted on-site easily and cleanly. Similar wastes—even paper, in some instances—can be composted under the right conditions.

**Mechanical chipping or mulching.** The mulch that is produced could be put to use for soil enrichment and moisture retention, or used to create compost. In some cases, the mulch could become a marketable product, be put to use where it is produced, or be given to individuals or nurseries. If the material cannot be used as a landscape mulch, chipping can still be useful to reduce the volume of waste that must be disposed of by some other means.

**Logging.** Timber sometimes can be converted to a marketable product—lumber, pulp, or firewood—as one way to reduce the costs of disposal. The remaining small limbs and brush are then much easier to dispose of through one of the other alternatives.

**Landfills.** Some landfills have recycling centers, with chippers for wood waste and collection bins for paper, plastic, and glass. Type IV landfills accept brush. Contact your local landfills for details.

**Air-curtain incineration (trench burning).** Many land-clearing contractors have portable devices, known as *trench burners* or *air-curtain incinerators*, that can be used to dispose of brush or untreated lumber with minimal emissions. These devices must be authorized by the TCEQ prior to their construction at a burn site and the contractor must have obtained a federal operating permit. Many contractors and distributors lease out these devices.

## Related TCEQ Publications

The TCEQ has a variety of publications available on issues related to outdoor burning. Several of them explain, in detail, specific alternatives to outdoor burning, for example:

- RG-325: *Used Oil Recycling Handbook: Guidance for Used Oil Handlers*
- GI-036: *Mulching and Composting*
- RG-419: *Disposal of Domestic or Exotic Livestock Carcasses*

To order single copies of these or other TCEQ publications, call TCEQ Publications Distribution at 512-239-0028 or write:

TCEQ Publications, MC 118  
P.O. Box 13087  
Austin, TX 78711-3087

## Appendix A: Outdoor Burning—When Should You Notify the TCEQ?

Purpose of Burning	Notify the TCEQ	Who Else to Notify	Rule Section
<b>Fire Training</b>			
Statewide	In writing, 10 working days prior	1	111.205(a)
Dedicated facility, used at least once per week	Every year	1	111.205(b)
Dedicated facility, used less frequently	In writing every year, and by phone or fax 24 hours before event	1	111.205(c)
<b>Disposal</b>			
Domestic waste	Not required	2	111.209(1)
Diseased animal carcasses	Not required	2	111.209(2)
Animal remains and associated medical waste	Not required	2	111.209(3)
Plant growth on-site	Not required	2, 4	111.209(4)
Plant growth at designated burn site	Verbally or in writing, by fire department employee; must be 24 hours before event	2, 4	111.209(5)
Crop residue	Verbally or in writing, when possible	2, 4	111.209(6)
Brush, off-site, by county or city	In writing; also notify verbally when possible	2, 4	111.209(7)
<b>Prescribed burns</b>			
Other than coastal salt marsh	Verbally or in writing, when possible	2, 3, 4	111.211(1)
Coastal salt marsh	15 working days prior, in writing; verbal notification also required	4	111.211(2)(A)
<b>Other</b>			
Oil spills	Spill notification and prior approval, in writing; verbal notification also required	2	111.213
Ceremonial fires	Not required	2	111.207

Note: This table shows notification requirements only. See also the general requirements for allowable burning given later in this document. In instances where a general requirement does not apply, it may be included as part of a required TCEQ authorization.

1. If there is a local air pollution–control agency, notify that agency.
2. Check local ordinances, and notify any other government having jurisdiction over the area—for example, the county fire marshal, local fire department, or local law-enforcement officials.
3. Notify the Texas Forest Service before conducting prescribed burns for forest management.
4. Before conducting the burn, determine whether any structures containing sensitive receptors (for example, residences, greenhouses, stables, etc.) are within 300 feet of, and in the general direction downwind from, the site of the burn. If so, obtain written permission from the occupants or operators of those structures before you begin the burn.

## Appendix B: TCEQ Areas and Regional Offices

### TCEQ AREA OFFICES

#### BORDER AND PERMIAN BASIN

*Region 6, El Paso • Region 7, Midland  
Region 15, Harlingen • Region 16, Laredo*  
1804 W. Jefferson Ave. • Harlingen, TX 78550-5247  
956-425-6010 • FAX: 956-412-5059

#### CENTRAL TEXAS

*Region 9, Waco • Region 11, Austin  
Region 13, San Antonio*  
P.O. Box 13087 • Austin, TX 78711-3087  
12100 Park 35 Circle • Austin, TX 78753  
512-239-6731 • FAX: 512-239-4390

#### COASTAL AND EAST TEXAS

*Region 5, Tyler • Region 10, Beaumont  
Region 12, Houston • Region 14, Corpus Christi*  
P.O. Box 13087 • Austin, TX 78711-3087  
12100 Park 35 Circle • Austin, TX 78753  
512-239-3607 • FAX: 512-239-4390

#### NORTH CENTRAL AND WEST TEXAS

*Region 1, Amarillo • Region 2, Lubbock • Region 3, Abilene  
Region 4, Dallas/Fort Worth • Region 8, San Angelo*  
5012 50th St., Ste. 100 • Lubbock, TX 79414-3426  
806-796-7092 • FAX: 806-796-7107

### TCEQ REGIONAL AND WATERMASTER OFFICES

#### 1 – AMARILLO

3918 Canyon Dr.  
Amarillo, TX 79109-4933  
806-353-9251 • FAX: 806-358-9545

#### 2 – LUBBOCK

5012 50th St., Ste. 100  
Lubbock, TX 79414-3426  
806-796-7092 • FAX: 806-796-7107

#### 3 – ABILENE

1977 Industrial Blvd.  
Abilene, TX 79602-7833  
325-698-9674 • FAX: 325-692-5869

#### 4 – DALLAS/FORT WORTH

2309 Gravel Dr.  
Fort Worth, TX 76118-6951  
817-588-5800 • FAX: 817-588-5700

#### Stephenville Office

(Concentrated Animal Feeding Operations)  
580 W. Lingleville Rd., Ste. D  
Stephenville, TX 76401-2209  
254-965-9200 or 800-687-7078

#### 5 – TYLER

2916 Teague Dr.  
Tyler, TX 75701-3734  
903-535-5100 • FAX: 903-595-1562

#### 6 – EL PASO

401 E. Franklin Ave., Ste. 560  
El Paso, TX 79901-1212  
915-834-4949 • FAX: 915-834-4940

#### 7 – MIDLAND

9900 W. IH-20, Ste. 100  
Midland, TX 79706  
432-570-1359 • FAX: 432-561-5512

#### 8 – SAN ANGELO

622 S. Oakes, Ste. K  
San Angelo, TX 76903-7035  
325-655-9479 • FAX: 325-658-5431

#### 9 – WACO

6801 Sanger Ave., Ste. 2500  
Waco, TX 76710-7826  
254-751-0335 • FAX: 254-772-9241

#### 10 – BEAUMONT

3870 Eastex Fwy.  
Beaumont, TX 77703-1830  
409-898-3838 • FAX: 409-892-2119

#### 11 – AUSTIN

P.O. Box 13087 • Austin, TX 78711-3087  
12100 Park 35 Circle • Austin, TX 78753  
512-339-2929 • FAX: 512-339-3795

#### 12 – HOUSTON

5425 Polk St., Ste. H  
Houston, TX 77023-1452  
713-767-3500 • FAX: 713-767-3520

#### 13 – SAN ANTONIO

14250 Judson Rd.  
San Antonio, TX 78233-4480  
210-490-3096 • FAX: 210-545-4329

#### 14 – CORPUS CHRISTI

NRC Bldg., Ste. 1200,  
6300 Ocean Dr., Unit 5839  
Corpus Christi, TX 78412-5839  
361-825-3100 • FAX: 361-825-3101

#### 15 – HARLINGEN

1804 W. Jefferson Ave.  
Harlingen, TX 78550-5247  
956-425-6010 • FAX: 956-412-5059

#### 16 – LAREDO

707 E. Calton Rd., Ste. 304  
Laredo, TX 78041-3887  
956-791-6611 • FAX: 956-791-6716

#### TEXAS WATERMASTERS

##### Brazos Watermaster

6801 Sanger Ave., Ste. 2500  
Waco, TX 76710-7826  
254-751-0335 • FAX: 254-772-9241

##### Concho Watermaster

622 S. Oakes, Ste. K  
San Angelo, TX 76903-7035  
325-481-8069 or 866-314-4894  
FAX: 325-658-5431

##### Rio Grande Watermaster

*Eagle Pass Office*  
P.O. Box 1185  
Eagle Pass, TX 78853-1185

1152 Ferry St., Ste. E & F  
Eagle Pass, TX 78852-4367  
830-773-5059 • 800-609-1219  
FAX: 830-773-4103

##### Harlingen Office

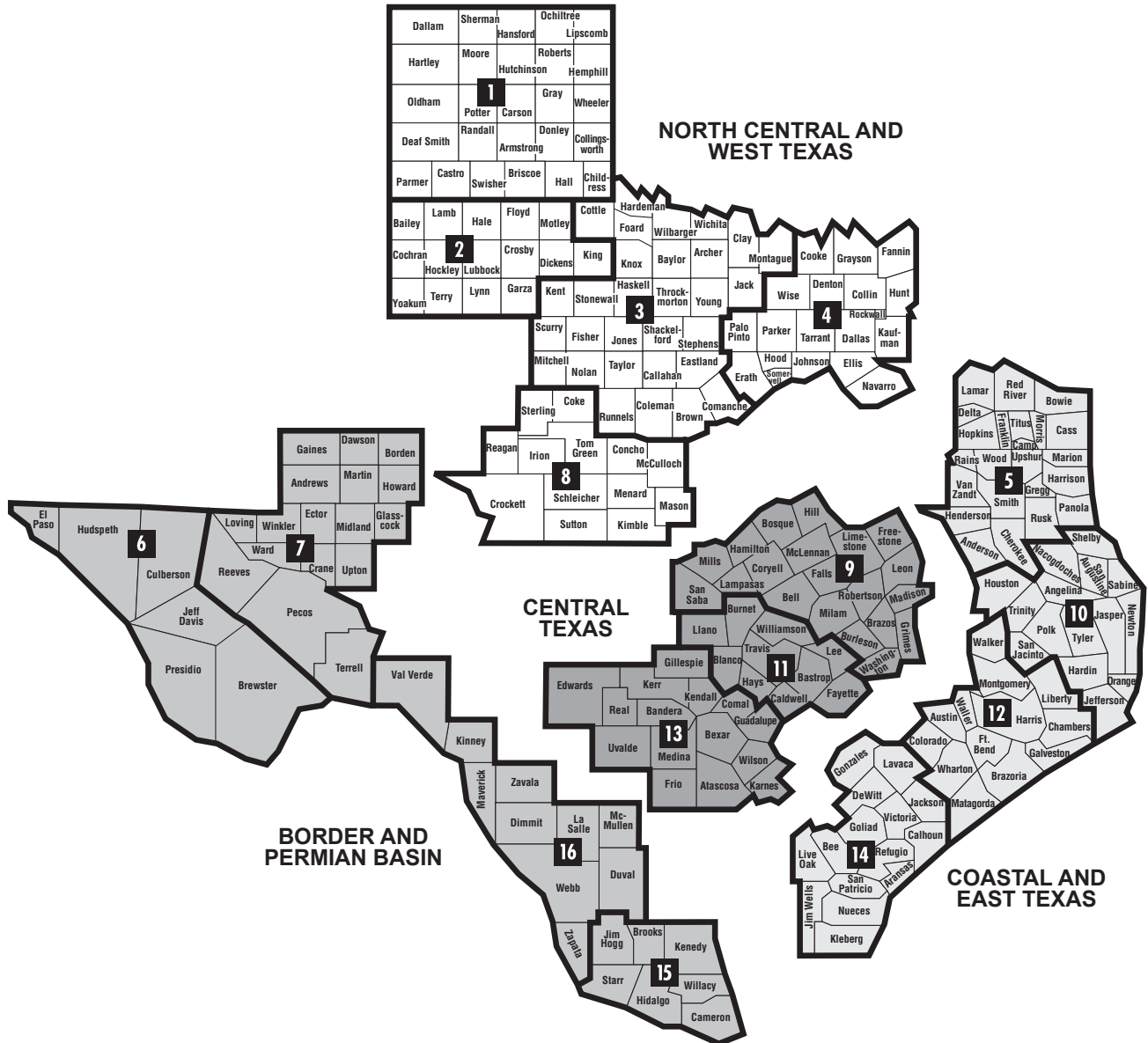
1804 W. Jefferson Ave.  
Harlingen, TX 78550-5247  
956-430-6056 or 800-609-1219  
FAX: 956-430-6052

##### South Texas Watermaster

14250 Judson Rd.  
San Antonio, TX 78233-4480  
210-490-3096 or 800-733-2733  
FAX: 210-545-4329



## TCEQ Areas and Regional Offices (continued)



### TCEQ REGIONS

- |                            |                     |                    |                          |
|----------------------------|---------------------|--------------------|--------------------------|
| <b>1</b> AMARILLO          | <b>5</b> TYLER      | <b>9</b> WACO      | <b>13</b> SAN ANTONIO    |
| <b>2</b> LUBBOCK           | <b>6</b> EL PASO    | <b>10</b> BEAUMONT | <b>14</b> CORPUS CHRISTI |
| <b>3</b> ABILENE           | <b>7</b> MIDLAND    | <b>11</b> AUSTIN   | <b>15</b> HARLINGEN      |
| <b>4</b> DALLAS/FORT WORTH | <b>8</b> SAN ANGELO | <b>12</b> HOUSTON  | <b>16</b> LAREDO         |

## Appendix C: Outdoor Burning Rule

The Outdoor Burning Rule is reproduced below from 30 TAC 111.201–221. A current copy of the rule can be obtained from the TCEQ by calling 512-239-0028, or at <www.tceq.texas.gov/rules>.

### §111.201. General Prohibition.

No person may cause, suffer, allow, or permit any outdoor burning within the State of Texas, except as provided by this subchapter or by orders or permits of the commission. Outdoor disposal or deposition of any material capable of igniting spontaneously, with the exception of the storage of solid fossil fuels, shall not be allowed without written permission of the executive director. The term “executive director,” as defined in Chapter 3 of this title (relating to Definitions), includes authorized staff representatives.

### §111.203. Definitions.

Unless specifically defined in the Texas Clean Air Act (TCAA) or in the rules of the Texas Commission on Environmental Quality (commission), the terms used by the commission have the meanings commonly ascribed to them in the field of air pollution control. In addition to the terms that are defined by the TCAA, the following terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise.

- (1) **Extinguished**—The absence of any visible flames, glowing coals, or smoke.
- (2) **Landclearing operation**—The uprooting, cutting, or clearing of vegetation in connection with conversion for the construction of buildings, rights-of-way, residential, commercial, or industrial development, or the clearing of vegetation to enhance property value, access, or production. It does not include the maintenance burning of on-site property wastes such as fallen limbs, branches, or leaves, or other wastes from routine property clean-up activities, nor does it include burning following clearing for ecological restoration.
- (3) **Neighborhood**—A platted subdivision or property contiguous to and within 300 feet of a platted subdivision.
- (4) **Practical alternative**—An economically, technologically, ecologically, and logistically viable option.
- (5) **Prescribed burn**—The controlled application of fire to naturally occurring vegetative fuels under specified environmental conditions and confined to a predetermined area, following appropriate planning and precautionary measures.
- (6) **Refuse**—Garbage, rubbish, paper, and other decayable and nondecayable waste, including vegetable matter and animal and fish carcasses.
- (7) **Structure containing sensitive receptor(s)**—A man-made structure utilized for human residence or business, the containment of livestock, or the housing of sensitive live vegetation. The term “man-made structure” does not include such things as range fences, roads, bridges, hunting blinds, or facilities used solely for the storage of hay or other livestock feeds. The term “sensitive live vegetation” is defined as vegetation that has potential to be damaged by smoke and heat, examples of which include, but are not limited to, nursery production, mushroom cultivation, pharmaceutical plant production, or laboratory experiments involving plants.
- (8) **Sunrise/Sunset**—Official sunrise/sunset as set forth in the United States Naval Observatory tables available from National Weather Service offices.
- (9) **Wildland**—Uncultivated land other than fallow, land minimally influenced by human activity, and land maintained for biodiversity, wildlife forage production, protective plant cover, or wildlife habitat.

### §111.205. Exception for Fire Training.

- (A) Outdoor burning shall be authorized for training firefighting personnel when requested in writing and when authorized either verbally or in writing by the local air pollution control agency. In the absence of such local entities, the appropriate commission regional office shall be notified. The burning shall be authorized if notice of denial from the local air pollution control agency, or commission regional office is not received within 10 working days after the date of postmark or the date of personal delivery of the request.
- (B) Facilities dedicated solely for firefighting training, at which training routinely will be conducted on a

frequency of at least once per week, shall submit an annual written notification of intent to continue such training to the appropriate commission regional office and any local air pollution control agency.

- (C) Facilities dedicated solely for firefighting training, at which training is conducted less than weekly, shall provide an annual written notification of intent, with a telephone or electronic facsimile notice 24 hours in advance of any scheduled training session. No more than one such notification is required for multiple training sessions scheduled within any one-week period, provided the initial telephone/facsimile notice includes all such sessions. Both the written and telephone notifications shall be submitted to the appropriate commission regional office and any local air pollution control agency.
- (D) Authorization to conduct outdoor burning under this provision may be revoked by the executive director if the authorization is used to circumvent other prohibitions of this subchapter.

### **§111.207. Exception for Fires Used for Recreation, Ceremony, Cooking, and Warmth.**

Outdoor burning shall be authorized for fires used solely for recreational or ceremonial purposes, or in the noncommercial preparation of food, or used exclusively for the purpose of supplying warmth during cold weather. Such burning shall be subject to the requirements of §111.219(7) of this title (relating to General Requirements for Allowable Outdoor Burning).

### **§111.209. Exception for Disposal Fires.**

Except as provided in Local Government Code, §352.082, outdoor burning is authorized for the following:

- (1) domestic waste burning at a property designed for and used exclusively as a private residence, housing not more than three families, when collection of domestic waste is not provided or authorized by the local governmental entity having jurisdiction, and when the waste is generated only from that property. Provision of waste collection refers to collection at the premises where the waste is generated. The term “domestic waste” is defined in §101.1 of this title (relating to Definitions). Wastes normally resulting from the function of life within a residence that can be burned include such things as kitchen garbage, untreated lumber, cardboard boxes, packaging (including plastics and rubber), clothing, grass, leaves, and branch trimmings. Examples of wastes not consid-

ered domestic waste that cannot be burned, include such things as tires, non-wood construction debris, furniture, carpet, electrical wire, and appliances;

- (2) diseased animal carcass burning when burning is the most effective means of controlling the spread of disease;
- (3) veterinarians in accordance with Texas Occupations Code, §801.361, Disposal of Animal Remains;
- (4) on-site burning of trees, brush, grass, leaves, branch trimmings, or other plant growth, by the owner of the property or any other person authorized by the owner, and when the material is generated only from that property:
  - (A) in a county that is part of a designated nonattainment area or that contains any part of a municipality that extends into a designated nonattainment area; if the plant growth was generated as a result of right-of-way maintenance, landclearing operations, and maintenance along water canals when no practical alternative to burning exists. Such burning is subject to the requirements of §111.219 of this title (relating to General Requirements for Allowable Outdoor Burning). Commission notification or approval is not required; or
  - (B) in a county that is not part of a designated nonattainment area and that does not contain any part of a municipality that extends into a designated nonattainment area; this provision includes, but is not limited to, the burning of plant growth generated as a result of right-of-way maintenance, landclearing operations, and maintenance along water canals. Such burning is subject to local ordinances that prohibit burning inside the corporate limits of a city or town and that are consistent with the Texas Clean Air Act, Chapter 382, Subchapter E, Authority of Local Governments, and the requirements of §111.219(3), (4), (6), and (7) of this title. Commission notification or approval is not required.
- (5) at a site designated for consolidated burning of waste generated from specific residential properties. A designated site must be located outside of a municipality and within a county with a population of less than 50,000. The owner of the designated site or the owner’s authorized agent shall:
  - (A) post at all entrances to the site a placard measuring a minimum of 48 inches in width and 24 inches in height and containing, at a minimum, the words “DESIGNATED BURN SITE - No burning of

any material is allowed except for trees, brush, grass, leaves, branch trimmings, or other plant growth generated from specific residential properties for which this site is designated. All burning must be supervised by a fire department employee. For more information call {PHONE NUMBER OF OWNER OR AUTHORIZED AGENT}.” The placard(s) must be clearly visible and legible at all times;

- (B) designate specific residential properties for consolidated burning at the designated site;
- (C) maintain a record of the designated residential properties. The record must contain the description of a platted subdivision and/or a list of each property address. The description must be made available to commission or local air pollution control agency staff within 48 hours, if requested;
- (D) ensure that all waste burned at the designated site consists of trees, brush, grass, leaves, branch trimmings, or other plant growth;
- (E) ensure that all such waste was generated at specific residential properties for which the site is designated; and
- (F) ensure that all burning at the designated site is directly supervised by an employee of a fire department who is part of the fire protection personnel, as defined by Texas Government Code, §419.021, and is acting in the scope of the person’s employment. The fire department employee shall notify the appropriate commission regional office with a telephone or electronic facsimile notice 24 hours in advance of any scheduled supervised burn. The commission shall provide the employee with information on practical alternatives to burning. Commission approval is not required;
- (6) crop residue burning for agricultural management purposes when no practical alternative exists. Such burning shall be subject to the requirements of §111.219 of this title and structures containing sensitive receptors must not be negatively affected by the burn. When possible, notification of the intent to burn should be made to the appropriate commission regional office prior to the proposed burn. Commission notification or approval is not required. This section is not applicable to crop residue burning covered by an administrative order; and
- (7) brush, trees, and other plant growth causing a detrimental public health and safety condition burned by a county or municipal government at a site it owns upon

receiving site and burn approval from the executive director. Such a burn can only be authorized when there is no practical alternative, and it may be done no more frequently than once every two months. Such burns cannot be conducted at municipal landfills unless authorized under §111.215 of this title (relating to Executive Director Approval of Otherwise Prohibited Outdoor Burning), and shall be subject to the requirements of §111.219 of this title.

### **§111.211. Exception for Prescribed Burn.**

Outdoor burning shall be authorized for:

- (1) Prescribed burning for forest, range and wildland/wildlife management, and wildfire hazard mitigation purposes, with the exception of coastal salt-marsh management burning. Such burning shall be subject to the requirements of §111.219 of this title (relating to General Requirements for Allowable Outdoor Burning), and structures containing sensitive receptors must not be negatively affected by the burn. When possible, notification of intent to burn should be made to the appropriate commission regional office prior to the proposed burn. Commission notification or approval is not required.
- (2) Coastal salt-marsh management burning conducted in Aransas, Brazoria, Calhoun, Chambers, Galveston, Harris, Jackson, Jefferson, Kleberg, Matagorda, Nueces, Orange, Refugio, and San Patricio Counties. Coastal salt-marsh burning in these counties shall be subject to the following requirements:
  - (A) All land on which burning is to be conducted shall be registered with the appropriate commission regional office using a United States Geological Survey map or equivalent upon which are identified significant points such as roads, canals, lakes, and streams, and the method by which access is made to the site. For large acreage, the map should be divided into manageable blocks with identification for each defined block. The information must be received for review at least 15 working days before the burning takes place.
  - (B) Prior to any burning, notification, either verbal or written, must be made to, and authorization must be received from the appropriate commission regional office. Notification must identify the specific area and/or block to be burned, approximate start and end time, and a responsible party who can be contacted during the burn period.

- (C) Such burning shall be subject to the requirements of §111.219 of this title.

### **§111.213. Exception for Hydrocarbon Burning.**

Outdoor burning shall be authorized for hydrocarbon burning from pipeline breaks and oil spills only upon proper notification as set forth in §101.6 of this title (relating to Notification Requirements for Major Upset), and if the executive director has determined that the burning is necessary to protect the public welfare. Sampling and monitoring may be required to determine and evaluate environmental impacts.

### **§111.215. Executive Director Approval of Otherwise Prohibited Outdoor Burning.**

If not otherwise authorized by this chapter, outdoor burning may be authorized by written permission from the executive director if there is no practical alternative and if the burning will not cause or contribute to a nuisance, traffic hazard or to a violation of any federal or state primary or secondary ambient air standard. The executive director may specify procedures or methods to control or abate emissions from outdoor burning authorized pursuant to this rule. Authorization to burn may be revoked by the executive director at any time if the burning causes nuisance conditions, is not conducted in accordance with the specified conditions, violates any provision of an applicable permit, or causes a violation of any air quality standard.

### **§111.219. General Requirements for Allowable Outdoor Burning.**

Outdoor burning which is otherwise authorized shall also be subject to the following requirements when specified in any section of this subchapter.

- (1) Prior to prescribed or controlled burning for forest management purposes, the Texas Forest Service shall be notified.
- (2) Burning must be outside the corporate limits of a city or town except where the incorporated city or town has enacted ordinances which permit burning consistent with the Texas Clean Air Act, Subchapter E, Authority of Local Governments.
- (3) Burning shall be commenced and conducted only when wind direction and other meteorological conditions are such that smoke and other pollutants will not cause adverse effects to any public road, landing strip, navigable water, or off-site structure containing sensitive receptor(s).

- (4) If at any time the burning causes or may tend to cause smoke to blow onto or across a road or highway, it is the responsibility of the person initiating the burn to post flag-persons on affected roads.

- (5) Burning must be conducted downwind of or at least 300 feet (90 meters) from any structure containing sensitive receptors located on adjacent properties unless prior written approval is obtained from the adjacent occupant with possessory control.
- (6) Burning shall be conducted in compliance with the following meteorological and timing considerations:

- (A) The initiation of burning shall commence no earlier than one hour after sunrise. Burning shall be completed on the same day not later than one hour before sunset, and shall be attended by a responsible party at all times during the active burn phase when the fire is progressing. In cases where residual fires and/or smoldering objects continue to emit smoke after this time, such areas shall be extinguished if the smoke from these areas has the potential to create a nuisance or traffic hazard condition. In no case shall the extent of the burn area be allowed to increase after this time.
- (B) Burning shall not be commenced when surface wind speed is predicted to be less than six miles per hour (mph) (five knots) or greater than 23 mph (20 knots) during the burn period.
- (C) Burning shall not be conducted during periods of actual or predicted persistent low level atmospheric temperature inversions.

- (7) Electrical insulation, treated lumber, plastics, non-wood construction/demolition materials, heavy oils, asphaltic materials, potentially explosive materials, chemical wastes, and items containing natural or synthetic rubber must not be burned.

### **§111.221. Responsibility for Consequences of Outdoor Burning.**

The authority to conduct outdoor burning under this regulation does not exempt or excuse any person responsible from the consequences, damages, or injuries resulting from the burning and does not exempt or excuse anyone from complying with all other applicable laws or ordinances, regulations, and orders of governmental entities having jurisdiction, even though the burning is otherwise conducted in compliance with this regulation.



## Appendix D: Background

30 TAC 111.201 prohibits outdoor burning in Texas, except as stated in Sections 111.205–15. It also prohibits storing spontaneously combustible materials other than “solid fossil fuel” (i.e., coal) outside. The exception for coal was made to be consistent with the intent expressed in the preamble to the 1989 revisions to the rule.

**Land-clearing operation.** The last sentence of this definition indicates two different kinds of exclusions. The first, for on-site property waste burns, is covered in Section 111.209(4); the second, for burns for ecological restoration, is covered in Section 111.211(1). In practice, prescribed burns and land-clearing burns may have similarities; occasionally it is necessary in a prescribed burn to bulldoze trees or brush into piles to obtain the appropriate effect. The key difference is the concept of “conversion.” The goal of land clearing is a major change in land use, i.e. the conversion of the land from one use to another; the goal of a prescribed burn is to restore, maintain, or renew the ecosystem.

**Practical alternative.** This definition contains four criteria, each of which must be considered to determine whether an alternative is practical. The standard of judgment should be that of a reasonable person. For example, an option that is technologically available but neither economically affordable nor logistically possible is not practical. A method other than burning may not be practical if it cannot achieve the desired ecological outcome. An alternative that is technologically, economically, and logistically feasible is not practical if it causes a greater ecological harm than burning.

In Section 111.205(b), the wording “at which training routinely will be conducted” is used to eliminate potential confusion. For example, if training is conducted weekly except during holidays and when meteorological conditions are unfavorable, the facility still would qualify under this section of the rule. Other similar situations may also qualify.

Section 111.209(1) specifies that collection of domestic waste by the local governmental agency or authorized agent must occur on the premises where the waste is generated. The governmental provision of a transfer or convenience station to which residents may bring waste does not constitute collection of domestic waste; therefore, burning may take place in that instance. Any authorization of collection services by a government or other jurisdiction must be specific and well-defined. For a government merely to say it

is OK for anybody to collect garbage commercially within its jurisdiction does not constitute authorized collection for the purposes of this rule.

Section 111.209(6) recognizes an agricultural practice that continues in many parts of the state. The key factor is whether a practical alternative exists. Determining whether there is a practical alternative requires evaluating such things as the type of crop, soil moisture level, soil nutrient benefits, cropping sequence, and cost of alternative disposal methods.

Section 111.209(7) was added to deal with situations in which accumulated vegetation has the potential to do such things as obstruct the flow of water and cause flooding or provide habitat for vermin, but where it is not feasible to burn on-site because doing so would create a nuisance or traffic hazard. Each such burn requires prior approval from the regional office. A site cannot be designated by the municipality or county for continual use, as a standard operating procedure, to augment normal brush disposal. The intent is that the government (or other organization) will not conduct such a burn more frequently than once every two months, no matter how many sites it may have available. For example, it is not permissible for it to conduct a burn at one site and then have another burn at another site a few days later, circumventing the intent of the rule.

Section 111.211 recognizes the use of fire as a necessary management tool for particular situations for which there is no practical alternative. All such burns are subject to the General Requirements for Allowable Outdoor Burning (111.219).

Section 111.213 sets forth a mechanism for remediation to avoid additional environmental degradation in an emergency, such as preventing a petroleum substance from entering a waterway. Once the emergency is under control, it is not permissible to burn the material used to absorb the hydrocarbon or other wastes associated with emergency control. This section should not be used to sanction disposal. Note that the Outdoor Burning Rule refers to Section 101.6 (Notification Requirements for Major Upsets). However, that section has been repealed and replaced by Section 101.201 (Emissions Events Reporting and Record-keeping Requirements).

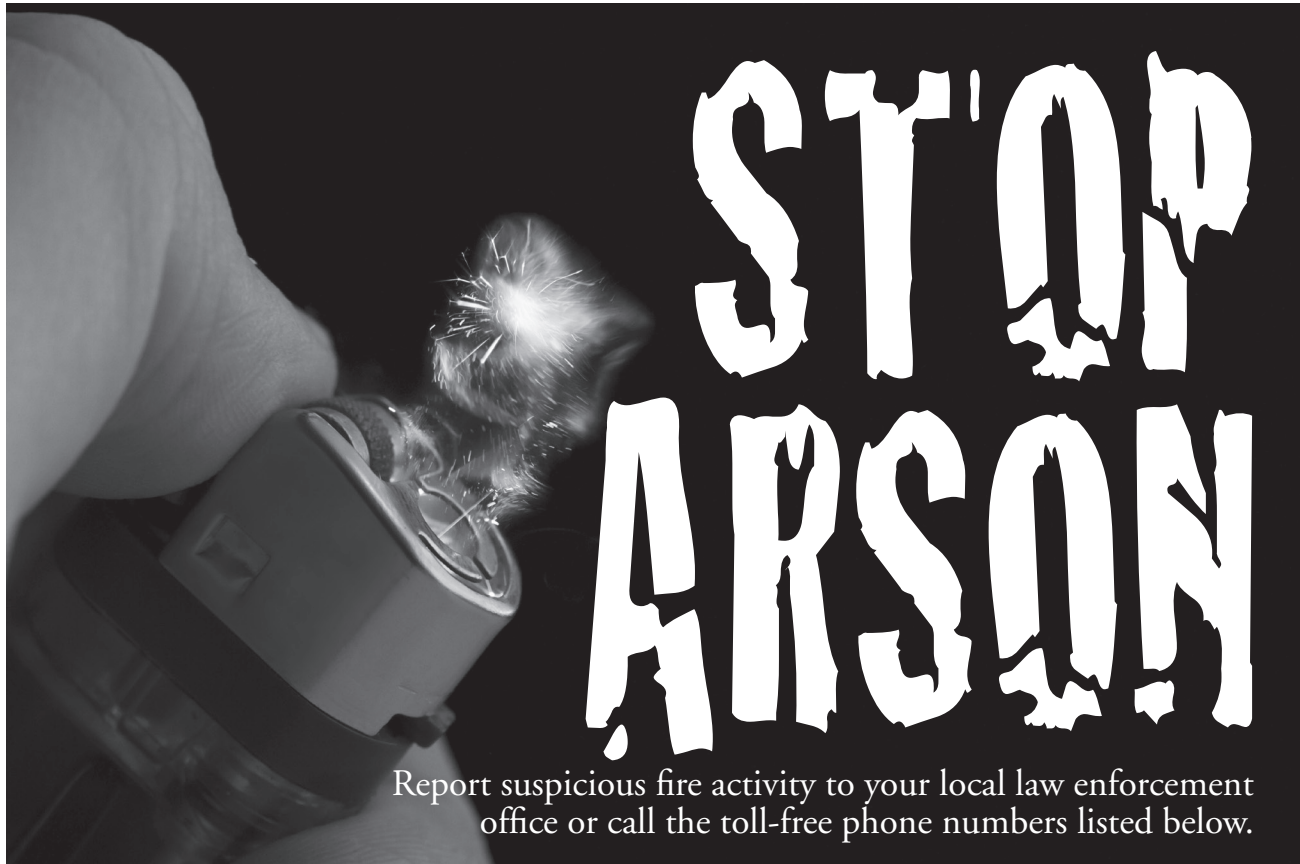
Section 111.219(6)(A) allows flexible burn opportunities with consideration for meteorological conditions conducive to dispersion. The requirement for having a responsible

party in attendance during the active burn phase does not mean someone has to be in attendance once the fire is virtually complete and is not advancing, i.e., once it principally consists of glowing coals with possibly some patchy residual fires. The extent of the burn may not be allowed to increase after one hour before sunset. A fire that has burned down to glowing coals has consumed most of the volatile substances and will not progress as a flame. It is understood that items such as stumps may burn for several days. Residual fires and smoldering objects without the potential to create a nuisance or traffic hazard need not be quenched. For example, if you

wish to burn 100 acres with a road on one side and no sensitive structures in other directions from the burn area, you would be prudent to extinguish residual fires and smoldering objects within a swath along the boundary with the road where the potential for nuisance or traffic hazard exists, but allow the remaining portion of the burn site to subside at a natural rate.

Section 111.219(7) specifically prohibits the burning of insulated wire without prohibiting the burning of piles created by fence demolition that contain wire and untreated wood wastes.

## **Appendix E: Arson Resources and Contact Information**



**Texas Toll-Free Arson Hotline**  
1-877-4FIRE45 (1-877-434-7345)

**Texas A&M Forest Service Wildland Arson Hotline**  
800-364-3470

You may be eligible for a reward up to \$2,000 if your information leads to the arrest and grand jury indictment of the person or persons responsible for arson.





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# Managing Debris from Declared Disasters

## Disposing of Debris

Large volumes of debris are generated following natural or human-caused disasters such as hurricanes, floods, tornados, fires or explosions, etc. The Texas Commission on Environmental Quality has developed the following guide for managing and disposing of debris associated with the cleanup of areas affected by these events.

If the debris was the result of a fire, see *Managing Debris from Texas Wildfires* at <[www.tceq.texas.gov/goto/wildfire-debris](http://www.tceq.texas.gov/goto/wildfire-debris)>.

Debris may include:

- trees, brush, and other vegetative matter
- construction or demolition waste, such as drywall, lumber, roof shingles, treated wood, plastics, etc.
- furnishings and appliances
- other municipal solid waste, including putrescible waste (waste that can cause foul odors as it decomposes), and animal carcasses
- hazardous waste, such as cleaning supplies, automotive products, paints and solvents, etc.

## Applicability

### If You Are an Authorized County or Municipal Solid Waste Operator:

This information will help you understand relevant environmental rules and decide on a reasonable course of action to follow.

Contact your TCEQ regional office if you have questions. Find the regional office that serves you at <[www.tceq.texas.gov/goto/region](http://www.tceq.texas.gov/goto/region)>.

## If You Are Not an Authorized County or Municipal Solid Waste Operator:

Your city, county, or other local authorities will offer specific instructions on what to do with debris and other waste. If you have received no instructions and you cannot reach local authorities, follow the guidelines below until you hear from them.

As much as possible, separate debris into different piles—for example—

- branches, leaves, and other vegetative materials that can go into a wood chipper
- metal and related materials suitable for recycling
- glass (gather glass carefully; before you set it out, double-bag it to avoid accidents)
- lumber, insulation, bricks, siding, and other debris from buildings
- furniture and other large items
- appliances (use duct tape to hold refrigerators and freezers closed)
- ruined clothing and furnishings

Set the piles as close to the road as possible:

- If you have a curb near your home, put them on top of the curb, not in the road.
- If you have a ditch and no curb near your home, put them in the grassy area between the ditch and the road. Be sure not to block the ditch or the road.

**Note:** Do not include any containers of chemicals that might be classified as household hazardous waste, such as pesticides, gasoline, etc. Refer to the section on household hazardous waste (page 6) for guidelines about how to deal with these materials.

If you have questions, call the TCEQ Customer Service and After-Hours Answering Service Line at 888-777-3186 to help you reach your local authority.

## Disaster Declarations

Sites of significant disasters are often declared disaster areas either by the governor or the president. Among other considerations, the declaration will be specific to certain counties and may enable them to receive additional financial and technical assistance for managing the debris.

Be sure to learn what requirements you need to fulfill to obtain your funding. To qualify for assistance, refer to the Federal Emergency Management Agency (FEMA) website at <[www.fema.gov](http://www.fema.gov)>, or call 800-621-FEMA (3362) (TTY: 800-462-7585).

# Sorting and Stockpiling Debris before Disposal or Burning

State and federal regulations apply to the disposal of specific types of debris. The TCEQ recognizes that, under the difficult conditions after a disaster, full compliance with these regulations may significantly delay the removal of debris from affected areas. In many cases, the TCEQ will waive, delay, or streamline some requirements in the aftermath of a disaster.

Sort debris as much as possible. You may only burn vegetation and clean, untreated wood and only if your county allows it. Sorting and stockpiling waste prior to burning is addressed in the general conditions section of the temporary debris management form (see next section in this document).

Note: Do not burn debris that was generated by a wildfire because environmental conditions may promote additional wildfires. Do not burn debris without special county authorization, if your county is under a burn ban. Options for disposal of segregated debris that should not be burned are discussed in later sections of this document.

## Temporary Debris-Management Sites

Request approval for each site or property where you plan to temporarily stockpile debris that has been collected. The forms you must use are available at [www.tceq.texas.gov/goto/temp-debris-form](http://www.tceq.texas.gov/goto/temp-debris-form). Your local facility may not be eligible for FEMA reimbursement without receiving this temporary authorization.

## Options for Burning

### Outdoor Burning

The TCEQ authorizes certain types of outdoor burning in Title 30, Texas Administrative Code, Chapter 111, Subchapter B. For more information see *Outdoor Burning in Texas* (TCEQ publication RG-049) at [www.tceq.texas.gov/goto/rg-049](http://www.tceq.texas.gov/goto/rg-049).

Note: If your county is under a burn ban, do not burn debris without special county approval. Check with your county emergency management office or county judge.

In response to declared disasters, the TCEQ may broaden the authority of county and municipal governments to allow burning of some debris. We will send authorization letters to affected counties as provided in 30 TAC 111.215.

Many counties will approve this type of burning, but only if they ensure that fire-protection personnel and equipment are available and fully operational. Contact

your county or municipal authorities to determine how they wish to handle the burnable debris.

If both the county—and if applicable—the city allow, you may burn untreated lumber, limbs, trees, and other plant debris resulting from the declared disaster, provided you do not create a nuisance condition or a traffic hazard, do not violate any local ordinances, and comply with all general requirements as laid out in this document and in the temporary debris-management site authorization.

Anyone wishing to file a complaint about inappropriate burning may call the TCEQ Environmental Complaints Hot Line at 888-777-3186 or send an e-mail to <complaint@tceq.texas.gov>.

## Burning Debris in Air-Curtain Incinerators

The TCEQ allows the use of ACIs in the disposal of debris during emergency cleanup operations such as the removal and disposal of debris from a declared disaster. ACIs are used when debris is burned in a trench dug in the ground, or with a containment box or chamber made for this purpose. ACIs established at temporary sites must meet the general conditions on the temporary debris management site form, available at <[www.tceq.texas.gov/goto/temp-debris-form](http://www.tceq.texas.gov/goto/temp-debris-form)> (TCEQ-20660).

Only trees, brush, and other vegetative matter, and clean lumber (not including wood that has been painted, stained, or pressure treated with chemicals) may be burned in an ACI during a declared disaster.

## How do I obtain authorization for use of an ACI?

If you plan to clean-up debris from a **declared** disaster you do not have to register an ACI. Instead, before burning, contact your local TCEQ regional office. You must meet the conditions on the TDMS form.

Depending on the emergency, regional-office personnel may conduct a site assessment. Once the regional office has granted permission, you don't need an ACI permit for the disaster cleanup as long as you follow the limitations you and the TCEQ have agreed to.

## Where can I operate an ACI?

To reduce the potential of nuisance conditions, operate ACIs at least 300 feet from the nearest property line and any other facility with an air permit. If that is not possible, contact your TCEQ regional office.

## How long can I operate a portable ACI?

You may operate portable facilities temporarily located at a site for up to 180 consecutive calendar days or 600 hours, whichever ends first. However, federal requirements begin to apply after eight weeks of use.

If you need to operate the ACI for longer than eight weeks, contact your TCEQ regional office to request an extension. When the ACI is no longer in use, you must remove it from the site.

## What records do I need to keep?

Equip the ACI with a run-time meter and record the dates and times, and how many hours the ACI is used. Keep records showing that you complied with all operating instructions and followed requirements for locating the ACI.

If you bury ash from trench-burning on the site, contact your TCEQ regional office and your county about filing deed records, if necessary. Keep any other records requested by your regional office.

## Disposal of Construction and Demolition Debris

Construction and demolition waste includes all materials that are direct or indirect by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to:

- drywall
- wood
- packing material and boxes
- plastics
- roof shingles and other roofing material
- metal
- concrete, bricks and stones

You may recycle many construction demolition materials. The TCEQ offers recycling resources at [www.tceq.texas.gov/p2/recycle](http://www.tceq.texas.gov/p2/recycle). If recycling isn't possible, waste should be sent to an authorized landfill.

See Table 1 for disposal options for demolition-related storm debris such as household hazardous or commercial waste, appliances, compressed-gas containers, tires, and vegetation.

# Household Hazardous Waste

Household hazardous waste collection may be an option for a community affected by a disaster. Check with your local emergency-management officials or county office. Substances often found in homes that might be considered HHW include:

- paints, thinners, and turpentine; furniture strippers; wood preservatives, stains, and finishes
- pesticides, insecticides, flea collars and sprays, roach and ant killers, rat and mouse poisons, and herbicides
- oven, toilet, drain, and rug and upholstery cleaners
- bleaches, disinfectants, mothballs, ammonia-based and powdered cleansers, and swimming-pool chemicals (i.e. chlorine tablets, muriatic acid, salts, etc.)
- floor and furniture polish
- household and automobile batteries
- automotive products including: antifreeze, transmission and brake fluids, motor oil, and gasoline

Communities affected by a disaster may be able to compile the household hazardous waste in a staging area for collection and disposal by a contractor. City and county officials are encouraged to offer options for collection. If a HHW collection is scheduled, residents should separate these types of materials.

For general questions about household hazardous waste, visit the HHW Program Web page at <[www.tceq.texas.gov/p2/hhw/howto.html](http://www.tceq.texas.gov/p2/hhw/howto.html)>. You may also contact the TCEQ HHW Program Manager at 512-239-3143 or <[recycle@tceq.texas.gov](mailto:recycle@tceq.texas.gov)>.

If you are a public official in one of the counties eligible for relief, and have questions about the disposal of HHW by a TCEQ contractor, call your local TCEQ regional office or the TCEQ emergency-management section in Austin at 512-239-1510.

## Disposal of Unknown, Suspicious, or Leaking Waste

Do not approach, examine, or attempt to move any containers of unknown substances or potentially hazardous materials, regardless of size. These containers may be leaking fumes or contain flammable or pressurized chemicals.

Call the Texas 24-hour spill hot line at 800-832-8224 to report the location of drums or other containers of hazardous or unknown wastes in any of the counties affected by the disaster declaration.

When you call, please give your contact information, a location and description of the container, and any potentially affected residences or businesses that are

nearby. Emergency personnel will remove the container for safe disposal or transport it to a safe location.

## Disposal of Animal Carcasses

Animal carcasses should be buried in pits or trenches, or by mounding. Disposal should always be carried out in a manner that protects public health and safety, does not create a nuisance, and prevents the spread of disease and adverse effects on water quality. The owner or operator of a farm or facility is responsible for disposal in a timely and sanitary manner.

For more information see these TCEQ publications:

- *Disposal of Domestic or Exotic Livestock Carcasses* (RG-419) <[www.tceq.texas.gov/goto/carcassdisposal](http://www.tceq.texas.gov/goto/carcassdisposal)>
- *Outdoor Burning in Texas* (RG-049) <[www.tceq.texas.gov/goto/rg-049](http://www.tceq.texas.gov/goto/rg-049)>

If you suspect that an animal died from a disease, contact the Texas Animal Health Commission at <[www.tahc.state.tx.us/](http://www.tahc.state.tx.us/)>.

**Note:** Be aware of burn bans. If the animal carcasses are the result of a wildfire, burning is **not** allowed. Find a map of county burn bans at <<http://txforests.tamu.edu/>>.



**Table 1****Options for management of segregated debris**

<b>Waste Type</b>	<b>Examples of Waste Type</b>	<b>Disposal or Burn Option</b>
Vegetation	Trees, brush	Preferred: Recycle Option: Outdoor burn using an ACI, if possible Option: Type I MSW landfill Option: Type IV MSW landfill
Clean Lumber	Lumber, and similar wood materials that have not been painted, stained, or chemically treated	Preferred: Recycle Option: Outdoor burn using an ACI, if possible Option: Type I MSW landfill Option: Type IV MSW landfill
Animal Carcasses	Non-diseased poultry, cattle, domestic animals	Preferred: On-site burial or mounding Preferred: MSW Type I landfill Option: Outdoor burn, using an ACI if possible Option: Off-site disposal using a renderer or a commercial waste incinerator
	Diseased poultry, cattle	Contact the Texas Animal Health Commission at < <a href="http://www.tahc.state.tx.us/">www.tahc.state.tx.us/</a> >
Household or Commercial Waste	Putrescible waste	MSW Type I landfill
	Garbage, refuse, rubbish	MSW Type I landfill
Construction or Demolition Waste	Asbestos containing debris - shingles, siding, insulation, tiles	MSW Type I landfill with Special Waste Authorization
	Painted, stained, or treated wood	Preferred: MSW Type IV landfill Option: MSW Type I landfill
	Non-asbestos roof shingles	Preferred: Fuel source for cement kilns with appropriate air authorization Option: MSW Type IV landfill Preferred: MSW Type I landfill
	Drywall	Preferred: MSW Type IV landfill Option: MSW Type I landfill
White Goods, Appliances	Refrigerators, stoves, washers, dryers, small appliances, etc	Preferred: Recycle Option: MSW Type I landfill

<b>Waste Type</b>	<b>Examples of Waste Type</b>	<b>Disposal or Burn Option</b>
<b>Household Hazardous Waste</b>	Cleaning products	Preferred: HHW collection Option: MSW Type I landfill Option: Permitted HW facility
	Paints, solvents	Preferred: HHW collection Option: MSW Type I landfill Option: Permitted HW facility
	Pesticides	HHW collection
	Automotive products: oil, antifreeze, brake fluid, gasoline, etc	Preferred: HHW collection Option: Registered used-oil collector Option: Permitted HW facility
	Batteries	Preferred: Recycle (lead-acid batteries are not allowed in MSW landfills) Option: HHW collection
	Electronics: computers, TVs, etc.	Preferred: HHW collection Option: Recycle Option: MSW Type I landfill Permitted HW facility
<b>Compressed Gas Containers</b>		Recycle
<b>Tires</b>		Pick up by authorized scrap-tire transporter Option: authorized processing or end-use facility